INFORMATIONAL PUBLIC HEARING DOCUMENT ON MARINE PROTECTED AREAS TO BE INCLUDED IN AMENDMENT 14

TO THE

FISHERY MANAGEMENT PLAN

FOR THE

SNAPPER GROUPER FISHERY

OF THE

SOUTH ATLANTIC REGION

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TABLE OF CONTENTS

SUMMARY

The South Atlantic Fishery Management Council (SAFMC) has been considering the use of Marine Protected Areas (MPAs) since the early 1990s. After a lengthy deliberative process the Council concluded in 2000 to move forward with using MPAs as a management tool to aid in the recovery of overfished stocks and to ensure the persistence of healthy fish stocks, fisheries and habitats. Specifically the Council saw MPAs as a management tool that would maintain the optimum size, age and genetic structure of slow growing, long-lived deepwater snapper grouper species (speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, tilefish, blueline tilefish and sand tilefish).

The Council began development of Amendment 14 to the Snapper Grouper Fishery Management Plan (FMP) in 2002 to implement MPAs as a management tool to protect overfished deepwater snapper grouper species. At the same time the Council was also in the process of developing Amendment 13B to the Snapper Grouper FMP. The purpose of Amendment 13B is to bring the Snapper Grouper FMP into full compliance with the Sustainable Fisheries Act of 1996 (SFA) by identifying maximum sustainable yield (MSY) and optimum yield (OY) for each managed species. The Council must end overfishing where it is occurring and rebuild overfished stocks to healthy levels within a specified time frame. Originally Amendment 13B was to include all species managed in the snapper grouper complex but in October of 2003 the Council voted to move SFA related management measures pertaining to deepwater snapper grouper species into Amendment 14 so that deepwater species can be managed holistically.

These informational public hearings will focus solely on gathering input on the social and economic impacts that may be associated with the specific proposed MPA sites. It is the Council's intent to use this process to gather information that is not available through traditional data sources (logbooks, surveys etc) so that the Council is ensured that it has the best possible information before any final decision is made.

The Council will receive Stock assessments for the major deepwater species in the Summer of 2004. These reports will be the basis for decisions the Council will make regarding identification of MSY, OY, whether or not species are overfished or undergoing overfishing and what measures are necessary to reduce fishing mortality so that overfished species can be rebuilt in the appropriate timeframe. Those management measures, along with MPAs, which will be used to protect the long-term size, age and genetic structure of the slow growing, long-lived deepwater species, will be included in the next draft of Amendment 14 and will be available for public comment through another round of public hearings and public comment period. It is likely that the next round of public hearings will take place in the Fall of 2004.

INTRODUCTION

BACKGROUND

The Snapper Grouper Fishery Management Unit (FMU) is a complex of 73 species managed under the Snapper Grouper Fishery Management Plan by the South Atlantic Fishery Management Council. The FMU is very diverse and contains snappers, grouper, jacks, porgies, tilefish, grunts and sea basses. The fishery has been under management since 1983 and the original FMP has been amended 13 times. Management measures currently in place include bag limits, size limits, gear prohibitions, seasonal closures, a commercial limited entry program and quotas.

History of Marine Protected Areas in the South Atlantic

The potential for using Marine Protected Areas (MPAs) as a management tool for the snapper grouper fishery first originated with the Council's Snapper Grouper Plan Development Team (PDT). This technical group prepared a report (April 1990) entitled "The Potential of Marine Fishery Reserves for Reef Fish Management in the U.S. South Atlantic." The Plan Development Team offered this approach because they believed it was the only viable option for maintaining optimum size, age, and genetic structure of slow growing, long-lived species over the long-term. The Council received an extensive briefing on marine reserves at the February 1990 Council meeting. This provided an opportunity for the Council to discuss marine reserves as a concept and to hear about experiences with reserves in other parts of the world.

Marine reserves were initially considered as a possible option in early discussions on Amendment 4 to the Snapper Grouper Fishery Management Plan, however the Council determined the reserve concept should be addressed separately and scheduled scoping meetings in each of the states. During 1992 the Council held scoping meetings. Scoping meetings are less formal than public hearings and occur prior to the Council taking any position on a management issue. When the Council is considering the need for management, scoping meetings provide an opportunity for members of the public to make suggestions BEFORE the Council has made any decisions.

During the 1992 scoping process support for and against the concept surfaced. The Council reviewed the scoping information at the January 1993 meeting and decided to (1) recommend to National Marine Fisheries Service that they convene a Scientific Review Panel to review the concept of MPAs and (2) drop consideration of the marine reserve concept at that time.

A scientific review of the 1990 Snapper Grouper Plan Development Team report was completed by the Scientific Review Panel as requested by the Council. The panel consisted of international experts with different experience in fishery science, marine reserves, ecology, fish genetics, sociology, and economics. The Scientific Review Panel concluded that properly designed marine reserves in combination with other management measures can be an effective management tool for reef fish resources in the U.S. South Atlantic region subject to the following conditions: (a) biological, ecological, social, and economic objectives of the marine reserves are clearly specified; (b) the relative biological, ecological, and economic impacts of marine reserves in the context of other fishery management measures have been estimated for various constituents; and (c) the development of marine reserve proposals proceed with the involvement of all constituencies and stakeholders.

Also the scientific review panel concluded that recognizing the alarming declines in stocks of key fishery species, the panel would urge that marine reserves options be considered immediately as part of a comprehensive fisheries management plan to prevent irreversible loss to species and fisheries.

In further developing Snapper Grouper Amendment 8 (and later Amendment 9), the Council realized that severe impacts would be felt by fishermen if necessary percentage reductions in catches of overfished species were imposed to achieve the mandated fishery management goals. Marine reserves once again surfaced as a potential alternative to fisheries closures.

In 1998 after deciding to reconsider the possibilities of marine reserves, the Council proceeded to take steps to initiate a fact-finding process using the Marine Reserves Committee and Advisory Panel (AP). An Action Plan was then developed that included three phases: Phase I. Planning/Criteria Development, during which criteria where developed and questions were raised about the proper size, placement and regulations within any potential marine reserves; Phase II. Decision Phase in which the Council, drawing on input from 3 rounds of scoping meetings, a Marine Reserves Workshop and the Marine Reserves AP made the decision that marine reserves were a necessary management tool for snapper grouper management; and Phase III. Implementation during which the Council is developing Amendment 14 to the Snapper Grouper FMP to establish specific sites as marine reserves.

When the informal meetings were held in 2000, the Council's intent was to begin a dialogue with stakeholders about the possibilities of using marine reserves as a management tool and not discuss specific management measures or specific sites. The meetings were not held by the Council, but Council members and staff made themselves available to meet with any group that made a request. Between January and March of 2000, Council members and staff attended 15 meetings representing commercial fishing groups, recreational fishing groups and conservation organizations. A total of 291 people attended these meetings. Through the informal meeting process the Council was able to gauge public support for marine reserves and discuss with them all possible options for managing overfished snapper grouper species to determine whether marine reserves were a tool that the Council should consider using.

During May and June 2000 the Council held another round of eight scoping meetings on marine reserves to give the public an opportunity to comment before the Council developed a position on whether or not to move forward with developing marine reserves as a management tool. As with the informal meetings, the Council had not yet discussed specific boundary options but was ready to make a decision on the general concept of marine reserves.

The stakeholders voiced many different opinions on the use of marine reserves. There was an equal amount of support and opposition for no-take marine reserves, but many different variations were offered from all sides. Many groups were in support of protecting known spawning areas from fishing and creating artificial habitats and prohibiting fishing in these areas.

As a result of the input received from the 2000 scoping meetings, the Marine Reserves Workshop, advice from the Marine Reserves Areas Advisory Panel, the Scientific and Statistical Committee and the Snapper Grouper Assessment Group, the Council voted to move forward with the utilization of marine reserves.

After deciding that marine reserves were a management tool that was needed to help recover overfished snapper grouper species, the Council then needed to determine the appropriate locations to site marine reserves and the appropriate regulations within the boundaries. Continuing on with the Council's philosophy of building support for marine reserves

from the ground up, the Council looked to the stakeholders to suggest where marine reserves should be placed, through the scoping process. In the Spring of 2001 the Council held a final nine scoping meetings. The public was provided charts that showed known hardbottom areas off the South Atlantic coast and was asked to use their experience and knowledge of snapper grouper species (specifically deepwater snapper grouper species) to suggest areas the Council may want to consider designating as marine reserves. As a part of this scoping process, the Marine Reserves Advisory Panel was asked to also suggest areas. As a result of this process over 40 sites were suggested and originally considered as potential marine reserves.

At their February 2001 meeting, the Council's Marine Reserves Committee discussed the difficulty managers and stakeholders were facing given that many different agencies were looking at marine reserves, marine sanctuaries, marine protected areas etc. The different nomenclature associated with this management tool made things very confusing to the public and managers alike. The Committee determined that the term "marine reserves" was coming to imply an area that allowed no fishing. This was contrary to the Council's definition and intent. In order to be more consistent with national definitions the Council adopted the term Marine Protected Areas (MPAs).

Marine protected areas, as defined in Presidential Executive Order 13158, means any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein.

WHAT IS A MARINE PROTECTED AREA?

The Council further defines marine protected areas within its jurisdiction as a network of specific areas of marine environments reserved and managed for the primary purpose of aiding in the recovery of overfished stocks and to insure the persistence of healthy fish stocks, fisheries, and habitats. Such areas may be over natural or artificial bottom and may include prohibition of harvest on a permanent or lesser time period to accomplish needed conservation goals.

The following types of actions are available to the Council for designating MPAs. The Council is focusing on Type 2 management actions to protect snapper grouper species.

Type 1 - Permanent closure/no-take

Type 2 - Permanent closure/some take allowed

Type 3 - Limited duration closure/no-take

Type 4- Limited duration closure/some take allowed

During 2001 and into 2002 the Council, with help from its advisors, began working to determine which sites would best meet the Council’s management objective to protect deepwater snapper grouper species. In August of 2001 the Council held an unprecedented "Mega-AP" meeting of the Habitat, Coral, Snapper Grouper, MPA, Law Enforcement, and Wreckfish advisory panels. The APs were asked to help the Council select sites that would be the most beneficial to the overfished deepwater snapper grouper species using their various and vast knowledge, understanding that the Council's intent was to look at sites that protect more inshore snapper grouper species further down the line.

Later in 2001 the Snapper Grouper Assessment Group, the Scientific and Statistical Committee and the Snapper Grouper AP met with the Council's Snapper Grouper Committee to provide additional input on the possible MPA sites. Based on input from the SSC, APs, the Snapper Grouper Committee and the Council then instructed staff to develop an options paper

for Snapper Grouper Amendment 14 with an initial level of analysis of sites the Council felt met the criteria of protecting overfished deepwater snapper grouper species. The sites that meet the criteria of protecting overfished deepwater snapper grouper species are the ones for discussion in this Informational Public Hearing Document.

FUTURE COUNCIL ACTION INCLUDING THE INFORMATIONAL PUBLIC HEARINGS

In 2002 the Council began development of Snapper Grouper Amendment 13B. The intent of Amendment 13B is to bring the Snapper/Grouper FMP into full compliance with the Magnuson-Stevens Act as amended by the Sustainable Fisheries Act of 1996 (SFA). The SFA requires the identification of maximum sustainable yield and optimum yield for each managed stock. The Council must then define fishing mortality rates that will end overfishing, if overfishing is occurring, and rebuild overfished stocks to healthy biomass levels within a specified rebuilding timeframe. Initially all species in the snapper grouper FMU were to be included in Amendment 13B. However, the Council voted in October 2003 to define biological reference points, status determination criteria, and rebuilding measures for the deep water grouper complex in Amendment 14, using the results of a stock assessment to be completed in June 2004. The MPA alternatives presented in this informational public hearing document will be analyzed in Amendment 14, along with alternatives to define targets, thresholds, and rebuilding measures for deep water grouper species. The information gathered from this meeting and fact-finding exercise will be used to develop Amendment 14.

Based on advice from the MPA Advisory Panel, the Council committed to holding two rounds of public hearings on Amendment 14. This first round is designed to collect social and economic information from the public on individual MPA alternatives. This information is critical to evaluating the impacts of the various MPA sites on people and communities. We prepared this informational public hearing document to provide background and context for that discussion. The second round of public hearings will take a more traditional format, and will enable the public to provide input on all alternatives, including these proposed MPAs, to be considered in Amendment 14, including the preferred alternatives for MPA sites, and for the biological reference points, status determination criteria, and rebuilding measures considered for the deep water grouper complex.

INFORMATION ON DEEPWATER SNAPPER GROUPER SPECIES

MANAGEMENT MEASURES IN PLACE FOR DEEPWATER SNAPPER GROUPER SPECIES

There are eight species in the deepwater snapper grouper complex: speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, tilefish, blueline tilefish and sand tilefish. Regulations that apply to the entire snapper grouper FMU but affect deepwater species include the prohibition of trawls, traps and bottom longlines inside of 50 fathoms and North of St. Lucie Inlet, Florida and the commercial limited entry program in which two permits must be retired for one new vessel to enter the fishery.

Amendment 6/Environmental Assessment (SAFMC 1993) was developed to rebuild the snowy grouper, golden tilefish, speckled hind, Warsaw grouper, misty grouper, and yellowedge grouper resources. Catch quotas for snowy grouper (currently 344,508 pounds) and golden tilefish (currently 1,001,663 pounds) and trips limits (Table 1) were implemented. All deepwater species were included under an aggregate recreational bag limit in which recreational fishermen are limited to 5 groupers per person per day however boats are limited to 1 speckled hind and 1 warsaw grouper. The commercial trip limits for snowy grouper and golden tilefish became effective June 6, 1994 and the bag limit regulations became effective June 27, 1994.

Table 1. Current regulations for deepwater snapper grouper species (SAFMC 2003).

SPECIES	SIZE LIMIT	BAG LIMIT	TRIP LIMIT	SEASONAL DAILY BAG LIMIT	LIMITED ACCESS	QUOTA	GEAR RESTRIC-TIONS	SEASONAL CLOSURES	AREA CLOS-URES
Snowy Grouper		Included in 5 grouper aggregate bag limit	2,500 lbs. when season open; 300 lbs. when closed		**		***		****
Yellowedge Grouper		Included in 5 grouper aggregate bag limit			**		***		****
Warsaw Grouper		Included in 5 grouper aggregate bag limit; 1 per trip	1 per vessel per trip*		**		***		****
Speckled Hind		Included in 5 grouper aggregate bag limit; 1 per trip	1 per vessel per trip*		**		***		****
Misty Grouper		Included in 5 grouper aggregate bag limit			**		***		****
Golden Tilefish		Included in 5 grouper aggregate bag limit	5,000 lbs. when season open; 300 lbs. when closed		**		***		****
Blueline Tilefish		Included in 5 grouper aggregate bag limit			**		***		****

* May not be sold or traded; no transfer at sea.
* A limited entry program for the commercial fishery went into effect on December 14, 1998. Those who did not meet the qualifying criteria must purchase two valid, transferable limited entry permits and exchange them for one new valid, transferable permit to gain entry into the fishery.
** Allowable gear includes: vertical hook-and-line including hand-held hook-and-line and bandit gear; spearfishing gear without rebreathers; powerheads, except where prohibited; bottom longline, only in depths 50 fathoms or more and north of St. Lucie Inlet, Florida; black sea bass pots except in SMZs and only north of Cape Canaveral, Florida; sink net fishermen (NC only) can make multi-gear trips and all legal species harvested with black sea bass pots and/or vertical hook and line may be retained.
*** Species in the snapper grouper fishery management unit potentially occupying the *Oculina* Experimental Closed Area as reported by Koenig et al. (in press) and documented depth distribution.

BIOLOGY AND STATUS OF DEEPWATER SNAPPER GROUPER SPECIES

Groupers and Hinds, Serranidae

Serranids that could be affected by the proposed action include the gag, scamp, snowy grouper, yellowedge grouper, Warsaw grouper, speckled hind, and misty grouper. Serranids are usually solitary and territorial, but some gather in large groups to spawn (Robins and Ray 1986). Many species are protogynous hermaphrodites where fish hatch as females and develop into males as they become older and larger (Nelson 1994, in Froese and Pauly 2003).

Groupers

Grouper species are generally long-lived (Robins and Ray 1986). Protogyny occurs in almost all species — smaller individuals function first as females, then transform into males with growth (Robins and Ray 1986). Most individuals spawn during a restricted period of several months, which varies with species (Shapiro 1987). Many groupers, but especially the largest *Epinephelus* species, appear to be the resident apex predators of the reef systems that they inhabit (Huntsman et al. 1999).

Snowy grouper, *Epinephelus niveatus*

Biology

The snowy grouper occurs in the Eastern Pacific and in the Western Atlantic from Massachusetts to southeastern Brazil, including the northern Gulf of Mexico (Robins and Ray 1986). It ranges from depths of 30-525 m (98-1,722 ft). Adults occur offshore over rocky bottom habitat. Juveniles are often observed inshore and occasionally in estuaries (Heemstra and Randall 1993, in Froese and Pauly 2003).

The snowy grouper has a low resilience to overfishing, with a minimum population doubling time of 4.5-14 years (Heemstra and Randall 1993, in Froese and Pauly 2003). It is protogynous. The smallest male and youngest male examined by Wyanski et al. (2000) was 72.7 cm (28.8 in) TL and age 8. The median size and age of snowy grouper was 91.9 cm (34.5 in) and age 16. This species has been documented to attain sizes as great as 122 cm (48 in) TL and 30 kg (66 lbs), and to survive up to 27 years (Heemstra and Randall 1993, in Froese and Pauly 2003). The maximum age reported by Wyanski et al. (2000) is 29 years for fish collected off of North Carolina and South Carolina. Radiocarbon techniques indicate that snow grouper may live for as long as 40 years (Harris, South Carolina Department of Natural Resources, personal communication). At a stock assessment data workshop during November 2003, the SEDAR group estimated that snowy grouper natural mortality is between 0.10 and 0.20. Wyanski et al. (2000) report that 50% of the females are mature at 54.1 cm (21.3 in) TL and 5 years of age. The smallest mature female was 46.9 cm (18.5 in) TL; the largest immature female, 57.5 cm (22.6 in) TL.

Females in spawning condition have been captured off western Florida during May, June, and August (Bullock and Smith 1991). In the Florida Keys, ripe individuals have been observed from April to July (Moore and Labinsky 1984). Spawning seasons reported by other researchers are as follows: South Atlantic (north of Cape Canaveral), April through September (Wyanski et al. 2000) and April through July (Parker and Mays 1998); and South Atlantic (south of Cape Canaveral), May through July (Manooch 1984). Wyanski et al. (2000) report that snowy grouper spawn at depths from 176-232 m (577-761 ft) off South Carolina. Adults feed on fishes, gastropods, cephalopods, and crustaceans (Heemstra and Randall 1993, in Froese and Pauly 2003).

Status

According to NOAA Fisheries' 2002 report to Congress on the status of fisheries of the United States (NMFS 2003), the South Atlantic stock of snowy grouper is considered to be overfished based on the pre-SFA definition of that term. Under that definition, the stock is overfished when the SPR falls below 30%. This stock also is considered to be experiencing overfishing, based on a post-SFA definition of the MFMT. Overfishing is defined as a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is

currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Yellowedge Grouper, *Epinephelus flavolimbatus*

Biology

The yellowedge grouper occurs in the Western Atlantic, ranging from North Carolina to southern Brazil, including the Gulf of Mexico. A solitary, demersal, deep-water species, the yellowedge grouper occurs in rocky areas and on sand mud bottom, at depths ranging from 64-275 m (210-902 ft). On soft bottom habitats, this fish is often seen in or near trenches or burrow-like excavations (Heemstra and Randall 1993, in Froese and Pauly 2003).

This species has low resilience to overfishing, with a minimum population doubling time of 4.5-14 years. Maximum reported size is 114 cm (45.3 in) TL (male); maximum weight, 18.6 kg (41 lbs). Cass-Calay and Bahnick (2002) provide a maximum age of 85 years that was validated by the use of radiocarbon dating. Natural mortality is estimated to be 0.05 (Cass-Calay and Bahnick 2002).

This fish is protogynous (Bullock et al. 1996). A study conducted by Bullock et al. (1996) in the Gulf of Mexico reported that 50% of fishes are mature at 22.4 in, and that 50% of females transform into males by the time they reach 81 cm (32.2 in) TL. Spawning occurs from April through October in the South Atlantic (Keener 1984; Manooch 1984; Parker and Mays 1998). Ripe females were found in the eastern Gulf of Mexico from May through September (Bullock et al. 1996). A wide variety of invertebrates (mainly brachyuran crabs) and fishes comprise the diet of this species (Bullock and Smith 1991; Heemstra and Randall 1993, in Froese and Pauly 2003).

Status

According to NOAA Fisheries' 2002 report to Congress on the status of fisheries of the United States (NMFS 2003), the yellowedge grouper is not considered to be overfished based on the pre-SFA definition of that term. Under that definition, the stock is overfished when the SPR falls below 30%. This stock is not considered to be experiencing overfishing, based on a post-SFA definition of the MFMT. Overfishing is defined as a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Warsaw Grouper, *Epinephelus nigritus*

Biology

The Warsaw grouper occurs in the Western Atlantic, ranging from Massachusetts to southeastern Brazil (Robins and Ray 1986), and in the Gulf of Mexico (Smith 1971). This fish is a solitary species (Heemstra and Randall 1993, in Froese and Pauly 2003), usually found on rocky ledges and seamounts (Robins and Ray 1986), at depths from 55-525 m (180-1,722 ft) (Heemstra and Randall 1993, in Froese and Pauly 2003). Young are sometimes observed in inshore waters (Robins and Ray 1986), on jetties and shallow reefs (Heemstra and Randall 1993, in Froese and Pauly 2003).

The Warsaw grouper has a low resilience to overfishing, with a minimum population doubling time of 4.5-14 years. Maximum reported size is 230 cm (91 in) TL (Heemstra and Randall 1993, in Froese and Pauly 2003); maximum weight, 263 kg (580 lbs) (Robins and Ray 1986). The oldest observed age is 41 years (Manooch and Mason 1987). Natural mortality was

estimated by the SEDAR group during November 2003 to range from 0.05 to 0.12. This species spawns during August, September, and October in the Gulf of Mexico (Peter Hood, NOAA Fisheries, personal communication), and during April and May off Cuba (Naranjo 1956). Adults feed on benthic invertebrates and on fishes (Heemstra and Randall 1993, in Froese and Pauly 2003).

Status

According to NOAA Fisheries' 2002 report to Congress on the status of fisheries of the United States (NMFS 2003), the South Atlantic stock of Warsaw grouper is considered to be overfished based on the pre-SFA definition of that term. Under that definition, the stock is overfished when the SPR falls below 30%. This stock also is considered to be experiencing overfishing, based on a post-SFA definition of the MFMT. Overfishing is defined as a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Speckled Hind, *Epinephelus drummondhayi*

Biology

The speckled hind occurs in the Western Atlantic Ocean, ranging from North Carolina and Bermuda to the Florida Keys, and in the northern and eastern Gulf of Mexico (Heemstra and Randall 1993, in Froese and Pauly 2003). This fish is a solitary, found in depths ranging from 25 m (98 ft) (Heemstra and Randall 1993, in Froese and Pauly 2003) to 400 m (1,312 ft) (Bullock and Smith 1991). Heemstra and Randall (1993), in Froese and Pauly (2002), report that it most commonly occurs at depths of 60-120 m (197-394 ft). Bullock and Smith (1991) indicate that most commercial catches are taken from depths of 50 m (164 ft) or more. Juveniles occur in shallower waters.

This fish has a low resilience to overfishing, with a minimum population doubling time of 4.5-14 years. Maximum reported size is 110 cm (43.3 in) TL; maximum weight, 30 kg (66 lbs) (Heemstra and Randall 1993, in Froese and Pauly 2003). The maximum size and age of individuals examined by Matheson and Huntsman (1984) in the South Atlantic Bight is 110 cm (43.3 in) and 15 years, respectively. Heemstra and Randall (1993), in Froese and Pauly (2002), report a maximum age of 25 years. Estimated size at maturity is 81.1 cm (32 in); natural mortality rate, 0.14 (Froese and Pauly 2003). Potts et al. (1998) provide an estimate of natural mortality at 0.15.

The speckled hind is thought to form spawning aggregations (G. Gilmore, Dynamac Corporation, personal communication). Spawning reportedly occurs from July to September (Heemstra and Randall 1993, in Froese and Pauly 2003). Prey items include fishes, crustaceans, and squids (Bullock and Smith 1991; Heemstra and Randall 1993, in Froese and Pauly 2003).

Status

According to NOAA Fisheries' 2002 report to Congress on the status of fisheries of the United States (NMFS 2003), speckled hind is considered to be overfished based on the pre-SFA definition of that term. The definition of overfished was approved pre-SFA and equates to an SPR level of less than 30%. The definition of overfishing was approved post-SFA and equates to a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003).

The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Misty grouper, *Epinephelus mystacinus*

Biology

The misty grouper occurs in the Western and Eastern Atlantic Ocean (Heemstra and Randall 1993, in Froese and Pauly 2003). In the Western Atlantic, it ranges from Bermuda and the Bahamas, southward to Brazil (Robins and Ray 1986). This fish is a solitary, bathydemersal species. Adults generally occur at depths from about 100-550 m (327-1,803 ft) (Robins 1967). Juveniles occur in shallower waters (e.g., 30 m (98 ft)).

Virtually nothing is known about the age, growth, and reproduction of this species. Maximum reported size is 160 cm (63 in) TL and 100 cm (39 in) TL for males and females, respectively. Maximum reported weight is 107 kg (236 lbs) (Heemstra and Randall 1993, in Froese and Pauly 2003). The estimated size at maturity is 81.1 cm (31.9 in); natural mortality rate, 0.14 (Froese and Pauly 2003). This species feeds primarily on fishes, crustaceans, and squids (Heemstra and Randall 1993, in Froese and Pauly 2003).

Status

The status of the misty grouper has not been assessed relative to current definitions of overfished and overfishing. The definition of overfished was approved pre-SFA and equates to an SPR level of less than 30%. The definition of overfishing was approved post-SFA and equates to a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Tilefish

Malacanthids that could be affected by the proposed action include the golden tilefish and blueline tilefish. Members of this family are found primarily on the deep continental shelf and upper slope. Some species build large sand and rubble mounds, which provide habitat for other fishes. Other species occur mostly on hard, rubble-strewn bottom or at rocky outcroppings (Robins and Ray 1986). Tilefishes eat primarily fish and invertebrates (Lindeman et al. 2000).

Tilefish, *Lopholatilus chamaeleonticeps*

Biology

The tilefish, also commonly known as the tilefish, is distributed throughout the Western Atlantic, occurring as far north as Nova Scotia, to southern Florida, and in the eastern Gulf of Mexico (Robins and Ray 1986). According to Dooley (1978),in Froese and Pauly (2002), the tilefish occurs at depths of 80-540 m (263-1,772 ft). Robins and Ray (1986) report the depth range of this fish as 82-275 m (270-900 ft). It is most commonly found at about 200 m (656 ft) depth, usually over mud or sand bottom but, occasionally, over rough bottom habitat (Dooley 1978, in Froese and Pauly 2003).

The tilefish has a low resilience to overfishing, with a minimum population doubling time of 4.5-14 years. Maximum reported size is 125 cm (50 in) TL; maximum weight, 30 kg (66 lbs) (Dooley 1978, in Froese and Pauly 2003; Robins and Ray 1986). Maximum reported age is 40 years (Palmer et al. In Press). Radiocarbon aging indicate that tilefish may live for at least 50 years (Harris, South Carolina Department of Natural Resources, personal communication). Potts

and Brennan (2001) estimate natural mortality at 0.10. Palmer et al. (in press) report that this species spawns off the southeast coast of the United States from March through late July, with a peak in April. Grimes et al. (1988) indicate that peak spawning occurs from May through September in waters north of Cape Canaveral. Shrimp and crabs are the primary prey items of this species. However, tilefish also feed on fishes, squid, bivalves, and holothurians (Dooley 1978, in Froese and Pauly 2003).

Status

According to NOAA Fisheries' 2002 report to Congress on the status of fisheries of the United States (NMFS 2003), the tilefish is considered to be overfished based on the pre-SFA definition that the stock is overfished when the SPR falls below 30%. This stock also is considered to be experiencing overfishing, based on a post-SFA definition of the MFMT. Overfishing is defined as a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

Blueline Tilefish, *Caulolatilus microps*

Biology

The blueline tilefish occurs in the Western Atlantic Ocean, ranging from North Carolina to southern Florida and Mexico, including the northern (and probably eastern) Gulf of Mexico (Dooley 1978, in Froese and Pauly 2003). Blueline tilefish are found along the outer continental shelf, shelf break, and upper slope on irregular bottom with ledges or crevices, and around boulders or rubble piles in depths of 30-236 m (98-774 ft) and temperatures ranging from 15-23° C (59-73.4º F) (Ross 1978; Ross and Hunstman 1982; Robins and Ray 1986; Parker and Mays 1998).

This fish has a low resilience to overfishing, with a minimum population doubling time of 4.5-14 years. Maximum reported size is 90 cm (35.7 in) TL; maximum weight, 7 kg (15 lbs) (Dooley 1978, in Froese and Pauly 2003). Maximum reported age for blueline tilefish is 42 years. The SEDAR group at the November stock assessment workshop in Charleston, SC estimated that natural mortality is between 0.04 and 0.17. Spawning occurs at night, from February to October, with a peak in May at depths of 48-232 m (157-761 ft) (Harris and Wyanski (in review)). This species feeds primarily on benthic invertebrates and fishes (Dooley 1978, in Froese and Pauly 2003).

Status

The status of the blueline tilefish has not been assessed relative to current definitions of overfished and overfishing. The definition of overfished was approved pre-SFA and equates to an SPR level of less than 30%. The definition of overfishing was approved post-SFA and equates to a fishing mortality rate in excess of that corresponding to a 30% Static SPR (NMFS 2003). The Council is currently reviewing these status determination criteria in Amendment 13B to the Snapper Grouper FMP.

SPAWNING LOCATIONS OF SNAPPER GROUPER SPECIES

The sites for the proposed MPAs for discussion in this document were chosen through a deliberative process that included members of the public (through scoping meetings), advisory panel members (Snapper Grouper, MPA, Law Enforcement, Habitat, Coral and Wreckfish), the Snapper Grouper Assessment Group, and the Scientific and Statistical Committee. Much of the information used to chose sites was from traditional knowledge and professional experience using the Council's criteria that sites first protect vulnerable deepwater snapper grouper species.

The maps below represent some of the information provided to the advisory panels (these maps are not the same as the ones used during the mega AP meeting but are updated with new information collected since that meeting) during the decision making process. Figures 1-3 represent spawning locations (collected during the MARMAP Reef Fish Survey 1978-2003) of vermilion snapper, red snapper and scamp compared to proposed MPA sites. While these species are not the target species to benefit from these proposed deepwater MPAs the maps below do show that there may be additional benefit provided to these species while deepwater species are being protected. Figures 4 and 5 show spawning locations (collected during the MARMAP Reef Fish Survey 1978-2003) of snowy grouper and blueline tilefish which are two of the species targeted to be protected by the proposed MPAs.

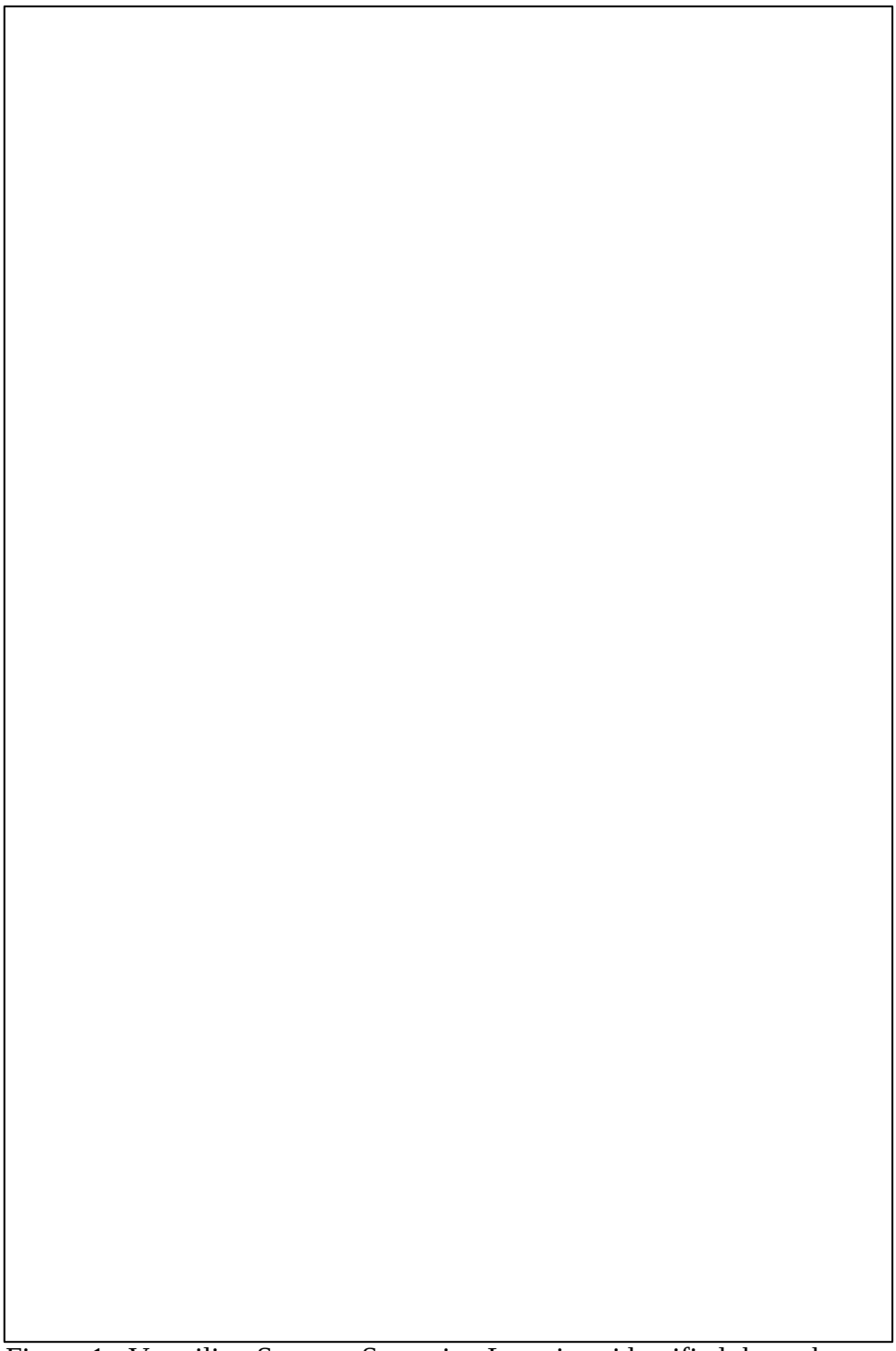

Figure 1. Vermilion Snapper Spawning Locations identified through sampling conducted from the MARMAP Reef Fish Survey 1978-2003 (Source: Dr. George Sedberry, SCDNR, excerpt from presentation at SAFMC GIS workshop, FMRI July 1, 2003).

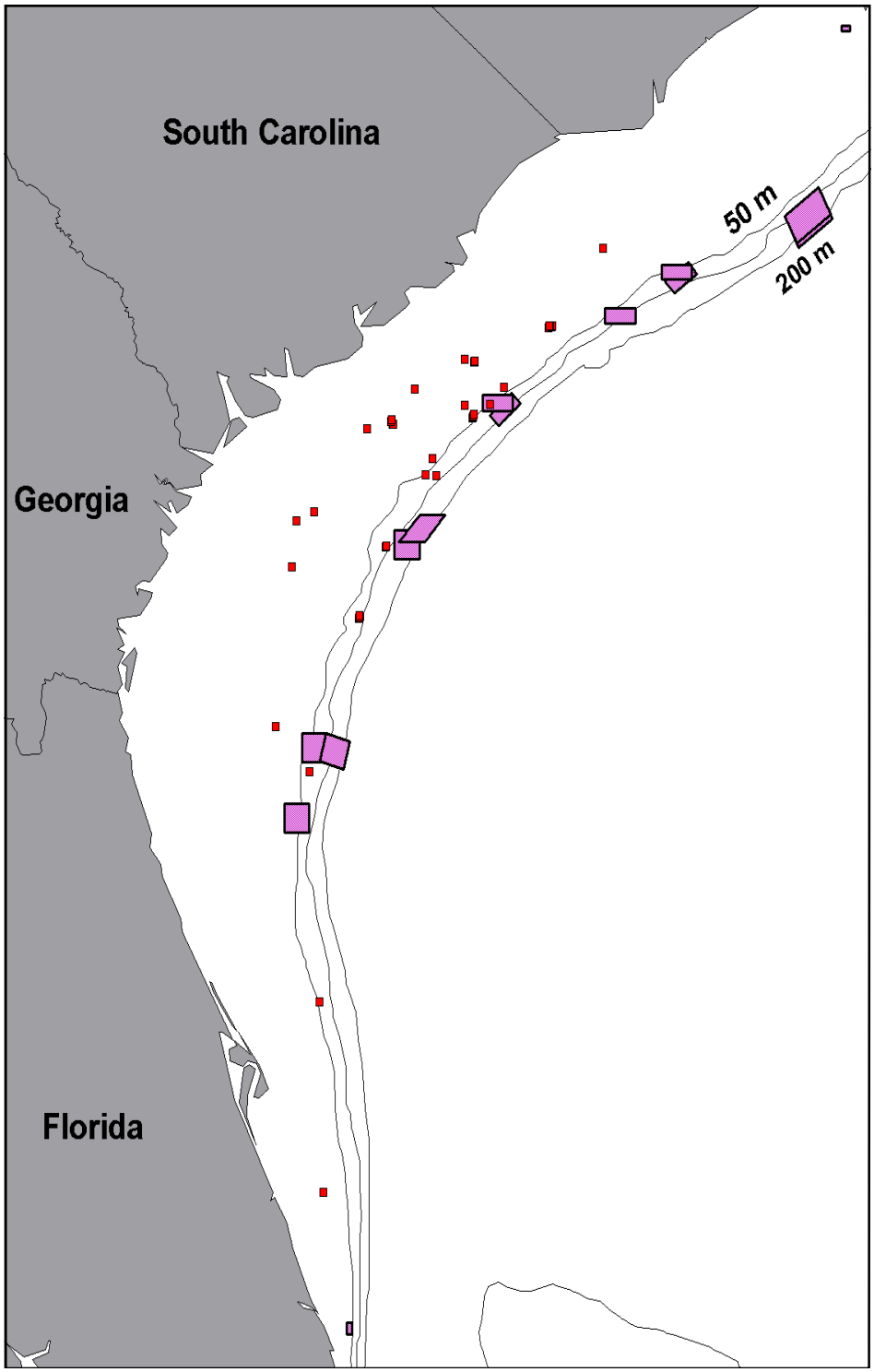

Figure 2. Red Snapper Spawning Locations identified through sampling conducted from the MARMAP Reef Fish Survey 1978-2003 (Source: Dr. George Sedberry, SCDNR, excerpt from presentation at SAFMC GIS workshop, FMRI July 1, 2003).

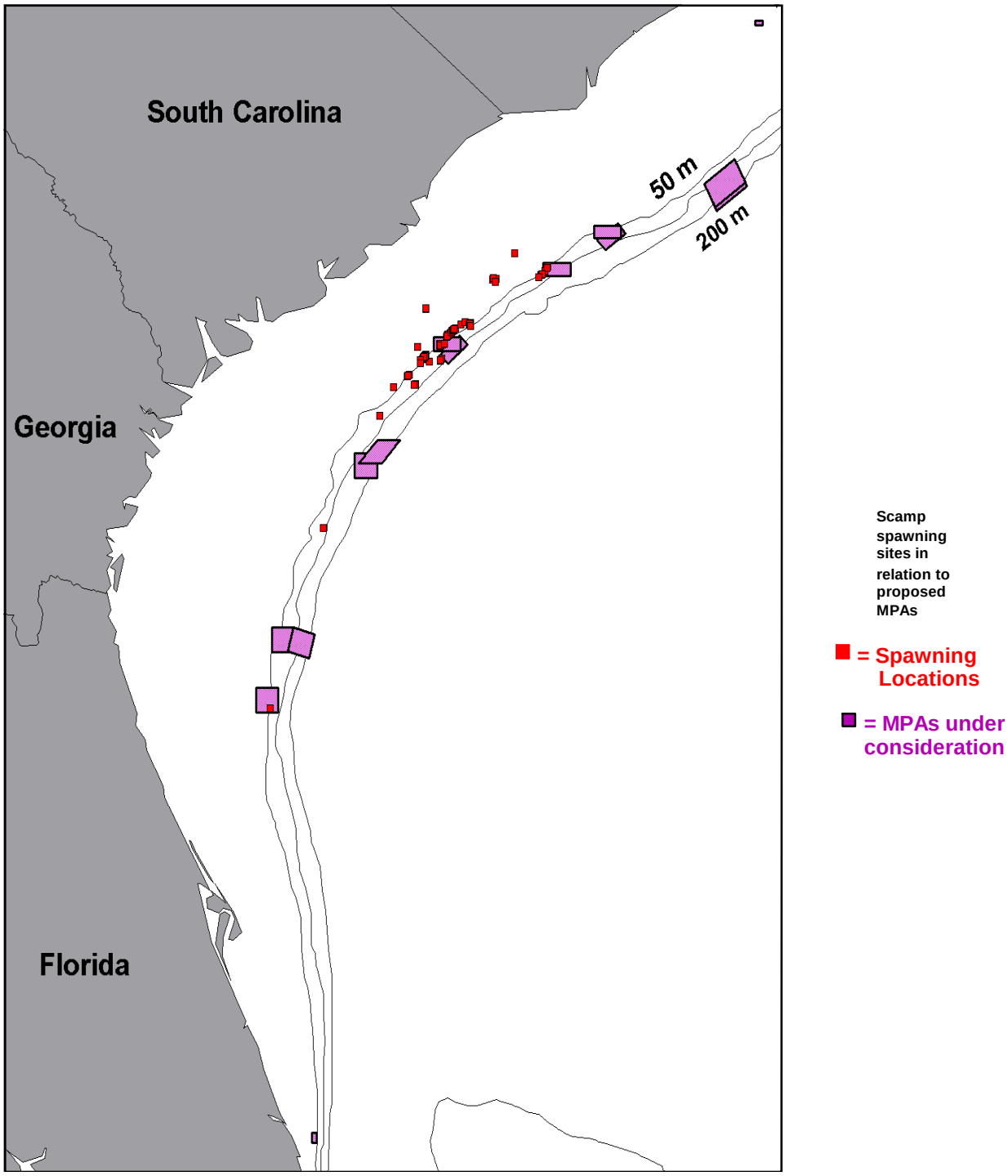

Figure 3. Scamp Spawning Locations identified through sampling conducted from the MARMAP Reef Fish Survey 1978-2003 (Source: Dr. George Sedberry, SCDNR, excerpt from presentation at SAFMC GIS workshop, FMRI July 1, 2003).

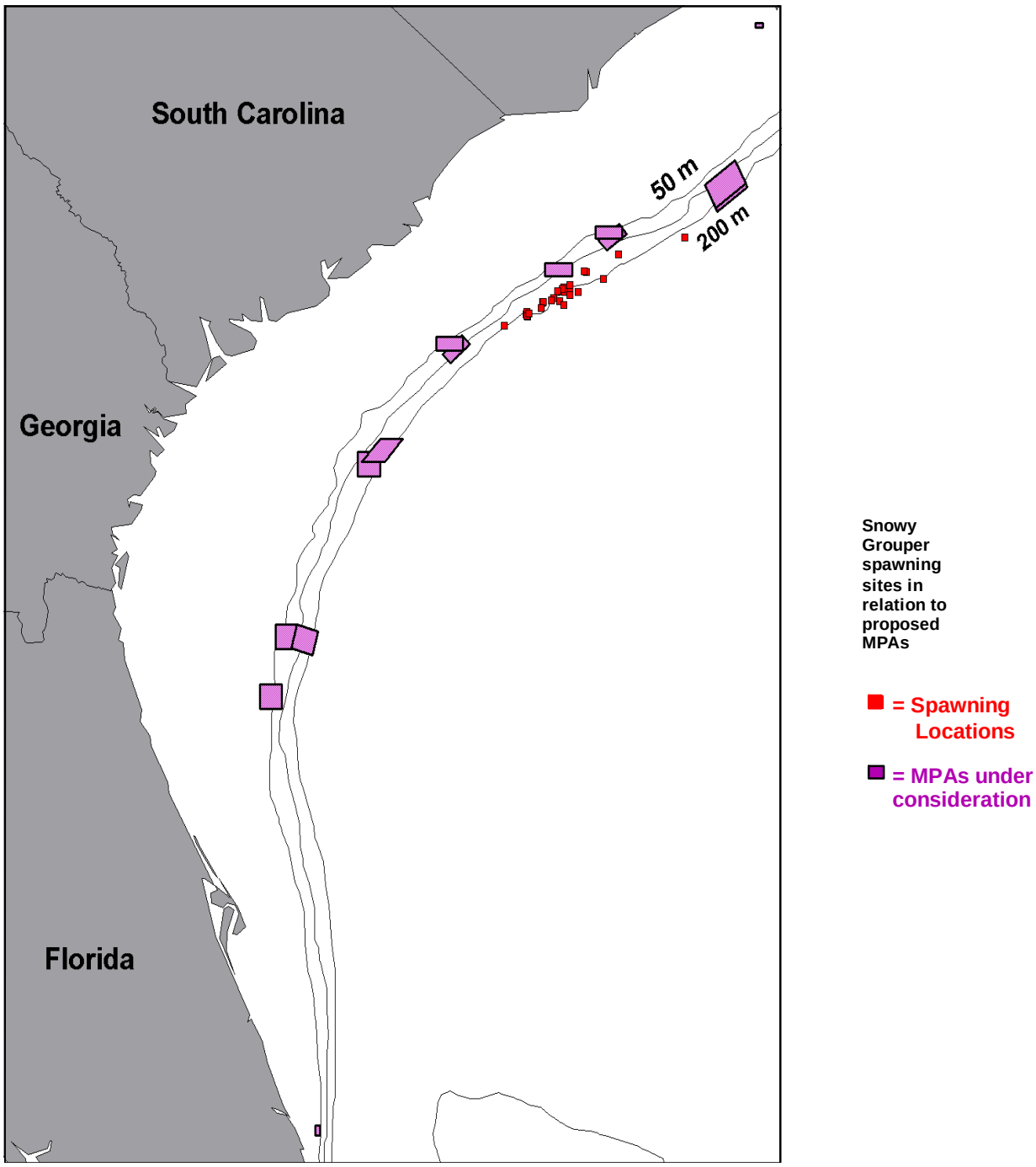

Figure 4. Snowy Grouper Spawning Locations identified through sampling conducted from the MARMAP Reef Fish Survey 1978-2003 (Source: Dr. George Sedberry, SCDNR, excerpt from presentation at SAFMC GIS workshop, FMRI July 1, 2003).

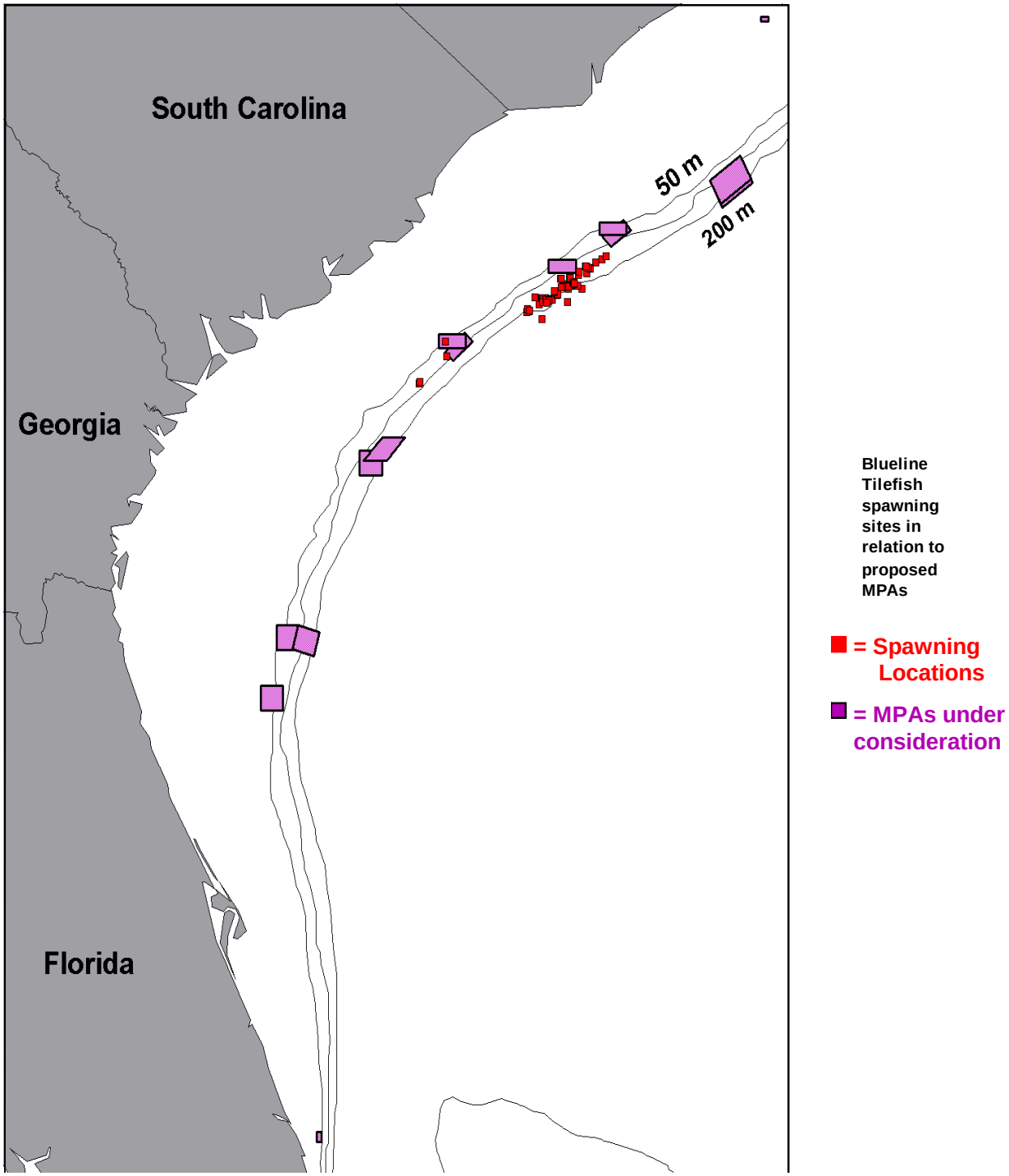

Figure 5. Blueline Tilefish Spawning Locations identified through sampling conducted from the MARMAP Reef Fish Survey 1978-2003 (Source: Dr. George Sedberry, SCDNR, excerpt from presentation at SAFMC GIS workshop, FMRI July 1, 2003).

GENERAL CATCH INFORMATION FOR DEEPWATER SNAPPER GROUPER SPECIES

Determining amount of catch that has come out of the proposed MPAs in the past is difficult due to the way data is collected. The General Canvass database (Figure 6) collects commercial landing information on a county by county basis there is no way to estimate where in the oceaqn those catches were made. The commercial logbook collects data by grids that are approximately 60 by 60 miles while the majority of the proposed MPAs are 10 by 10 miles. Figure 8 shows catches of deepwater snapper grouper species by commercial logbook grid. . The Headboat Logbook collects data by grids that are approximately 10 by 10 miles however the proposed MPAs do not line up within the grids. Figure 7 shows catches of deepwater species by headboat logbook grid.

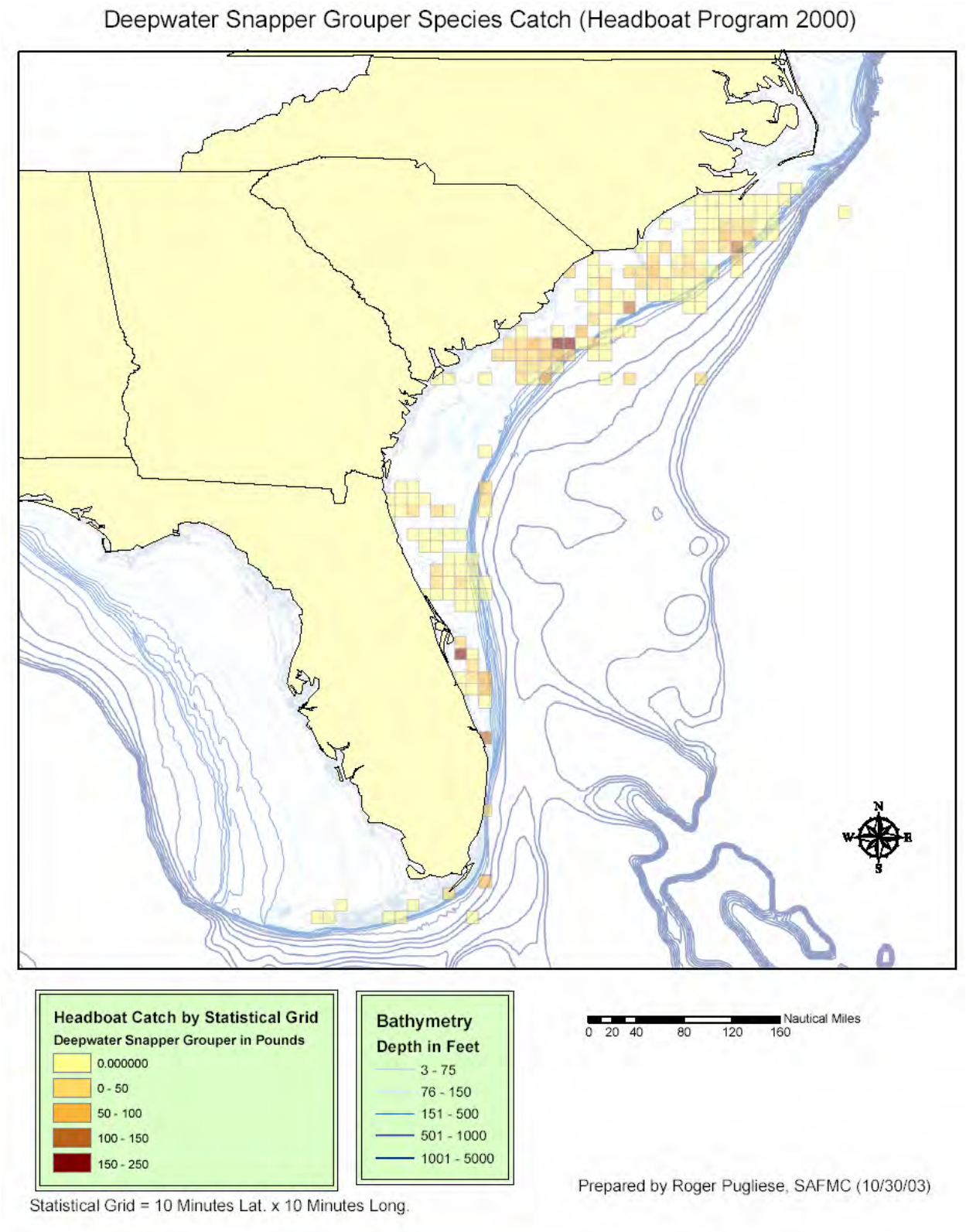

Figure 6. Deepwater Snapper Grouper Species Catch (Headboat Program 2000)

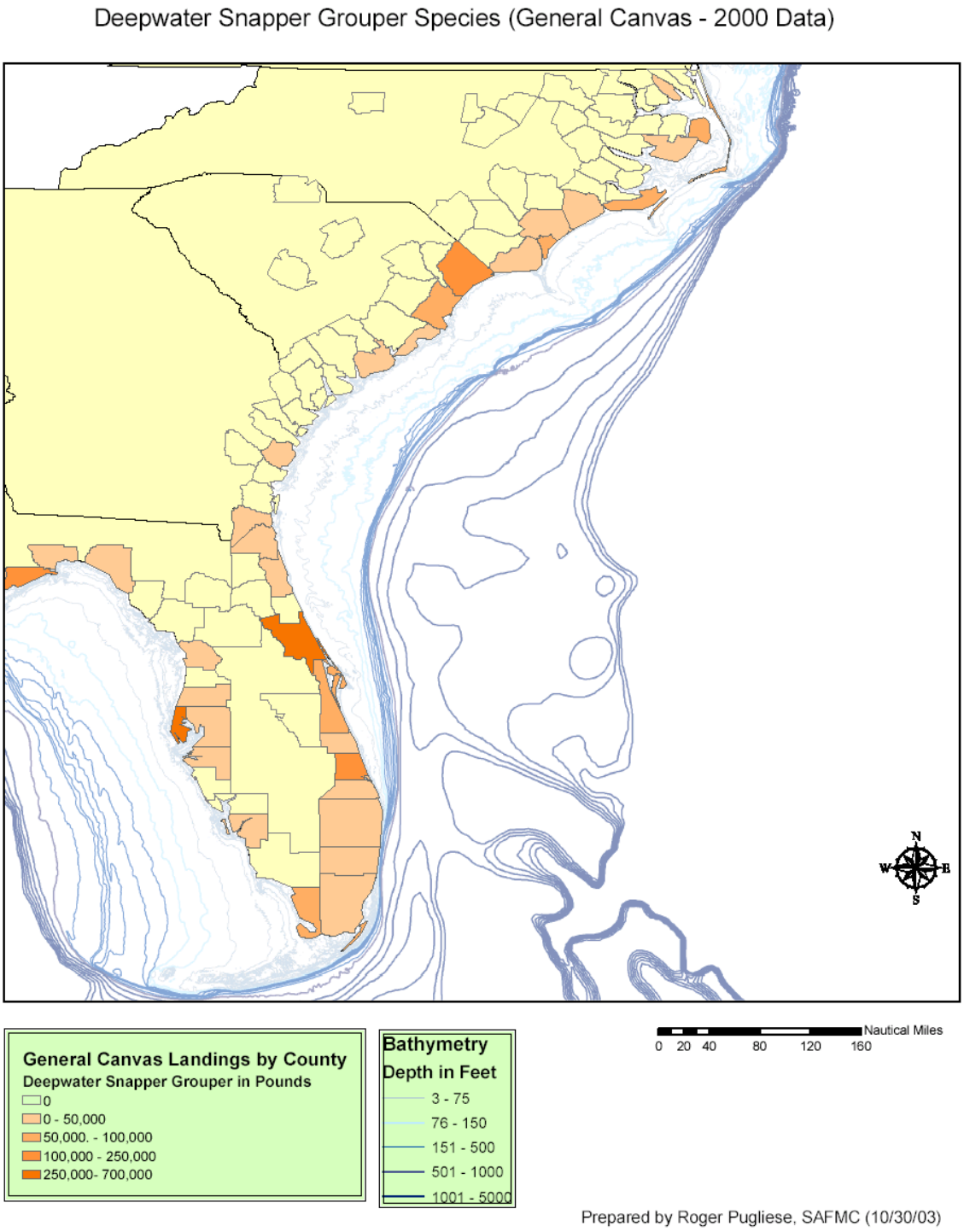

Figure 7. Deepwater Snapper Grouper Species Catch (Commercial Logbook – 2000 Data)

PROPOSED MARINE PROTECTED AREAS TO BE INCLUDED IN DRAFT AMENDMENT 14

The following sites have been identified through the Council's deliberative process exploring the use of Marine Protected Areas to maintain minimum size, age and genetic structure of slow growing, long lived species over the long-term. These sites were chosen with the help of the public and the Council's Advisory Panels through the scoping process. The location of each site is represented by both latitude and longitude and represented on a chart showing the location relative to the closest land location.

PROPOSED ACTION 1. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (PROHIBIT HARVEST AND POSSESSION OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) IN THE VICINITY OF THE AREA COMMONLY KNOWN AS THE "SNOWY WRECK" OFF THE COAST OF NORTH CAROLINA.

Option 1. Establish the Snowy Wreck MPA in the area bounded by the following coordinates: The northwest corner at 33°25'N, 77°4.75'W; northeast corner at 33°34.75'N, 76°51.3'W; southwest corner at 33°15.75'N, 77°0'W; and the southeast corner at 33°25.5'N, 76°46.5'W.

Option 2. Establish the Snowy Wreck MPA in the area bounded by the following coordinates: The northwest corner at 33°23.35'N, 77°4'W; northeast corner at **33°33.25'N, 76°50.5'W; southwest corner at 33°14.1'N, 76°59.35'W; and the southeast corner at 33°24'N, 76°45.75'W.**

Option 3. No action – Do not establish a MPA in the area of the "Snowy Wreck"

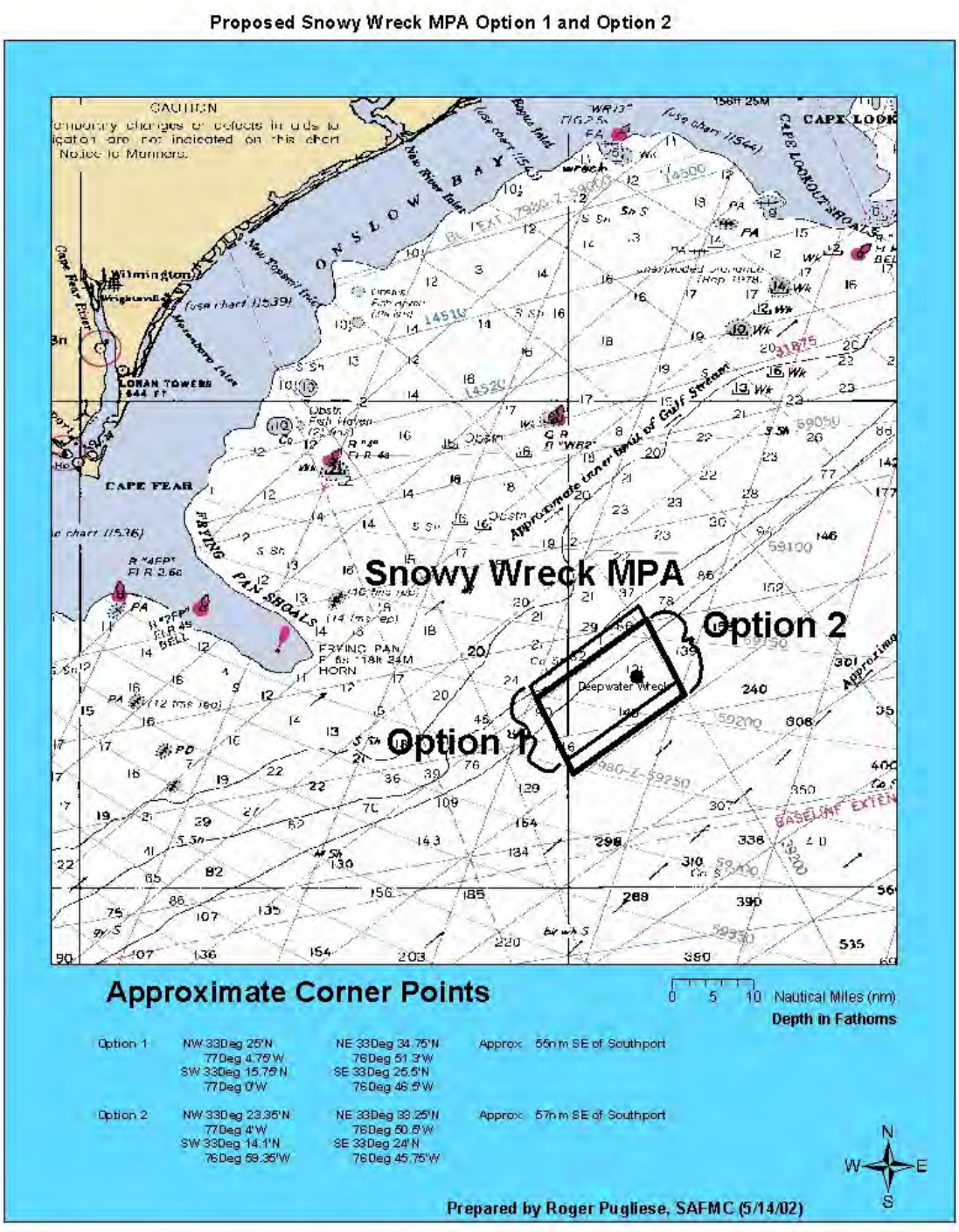

Figure 8. Proposed Snowy Wreck Marine Protected Area

Discussion

According to industry this area holds a lot of snowy grouper, speckled hind, gag and red porgy. Red Grouper, strawberry grouper and hog snapper have also been caught at this location. It is common knowledge that in the late nineties wrecks in the vicinity of this area that were known to hold many snowy grouper were hit hard by fishing pressure. This area is also heavily fished by fishermen who troll for tuna, marlin, dolphin and wahoo during certain times of the year.

Examination of commercial catches (Table 2) reported from the logbook grids that encompass this proposed MPA show that deepwater snapper grouper species were caught in the vicinity of this proposed MPA in 2000. They also show significant catches of other snapper grouper species (839,879 pounds) in 2000. Headboat logbook data (Table 3) shows very minimal catches of any species being recorded in 2000 from any of the statistical grids that encompass portions of this proposed MPA.

Table 2. Commercial catch reported in area of Proposed Snowy Wreck MPA in 2000(NOAA Fisheries, SEFSC)

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3377	29,675	3.5%	839,879	164,101	1,003,980
3376	19,224	28.2%	68,274	14,349	82,623
Total	**48,899**	**5.4**	**908,153**	**178,450**	**1,086,603**

Table 3. Headboat catch reported in area of Proposed Snowy Wreck MPA (NOAA Fisheries, SEFSC)

Headboat Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
34477F4	0	0%	2,310	235	2,545
337A63	0	0%	1,759	340	2,099
3377F5	0	0%	592	230	822
Total	**0**	**0%**	**4,661**	**1,167**	**5,828**

PROPOSED ACTION 2. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (NO POSSESSION OR HARVEST OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) IN AN AREA OFF THE NORTHERN COAST OF SOUTH CAROLINA (SOUTH CAROLINA A).

Option 1. Establish an MPA in the area bounded by the following coordinates: The northwest corner at 33°8.5'N, 77°54'W; the northeast corner at 33°8.5'N, 77°42'W; the southwest corner at 33°3.5'N, 77°54'W; and the southeast corner at 33°3.5'N, 77°42'W.

Option 2. Establish an MPA in the area bounded by the following coordinates: The northwest corner at 32°53.5' N, 78°16.75' W; the northeast corner at 32°53.5' N, 78°4.75' W; the southwest corner at 32°48.5'N, 78°16.75' W; and the southeast corner at 32°48.5' N, 78°4.75' W.

Option 3. Establish an MPA in the area bounded by the following coordinates: The northwest corner at 33°2.75' N, 79°52.75' W; the northeast corner at 33°9.25' N, 77°43.5' W; the southwest corner at 32°58.83' N, 77°48.83' W; and the southeast corner at 33°5.3' N, 77°39.9' W.

Option 4. No action – Do not establish a MPA off the northern coast of South Carolina.

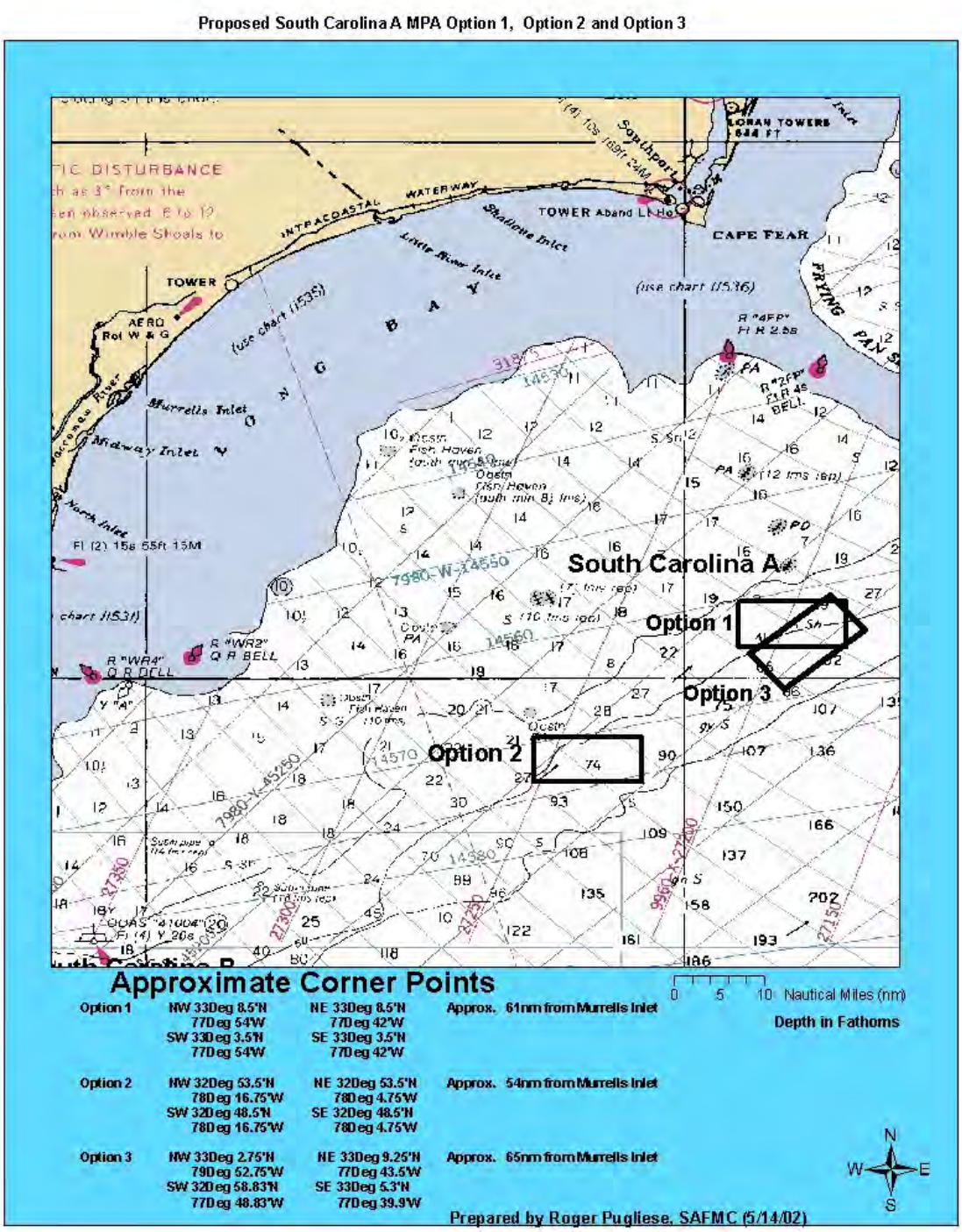

Figure 9. Proposed South Carolina A Marine Protected Area

Discussion

In general this site is described as an area of low-relief that was previously heavily trawled by roller rigs. This area is known as Smurfville to fishermen because it holds small vermilion snapper. According to industry this area is most utilized in the winter due to water temperature. In general this area also holds red porgy, gag, triggerfish, snowy grouper and speckled hind.

Examination of commercial catches (Table 4) reported from the logbook grids that encompass boundary options 1 and 3 of the this proposed MPA show that there 29,675 pounds of deepwater species caught in the vicinity this area in 2000. They also show significant catches of other snapper grouper species (839,879 pounds) in 2000. Boundary option 2 is encompassed by a different logbook grid (Table 5) which shows that many more deepwater species were reported caught in this area (184,938 pounds) however lower catches of other snapper grouper species (634,253 pounds) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA.

Table 4. Commercial catch reported in area of South Carolina A Proposed MPA/Boundary Options 1 & 3 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3377	29,675	3.5%	839,879	164,101	1,003,980

Table 5. Commercial catch reported in area of South Carolina A Proposed MPA/Boundary Option 2 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3378	184,938	29.2%	634,253	162,087	769,340

PROPOSED ACTION 3. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (NO POSSESSIONOR HARVEST OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) IN AN AREA OFF THE COAST OF CENTRAL SOUTH CAROLINA.

Option 1. Establish a MPA in the area bounded by the following coordinates: The northwest corner at 32°24'N, 79°6'W; the northeast corner at 32°24'N, 78°54'W, the southwest corner at 32°18.5'N, 79°6'W and the southeast corner at 32°18.5'N, 78°54'W.

Option 2. Establish a MPA in the area bounded by the following coordinates: The northwest corner at 32°17'N, 79°3'W; the northeast corner at 32°24.75'N, 78°54.2'W; the southwest corner at 32°13.5'N, 78°59.5'W; and the southeast corner at 32°21'N, 78°50.83'W.

Option 3. No action – Do not establish a MPA off the coast of central South Carolina.

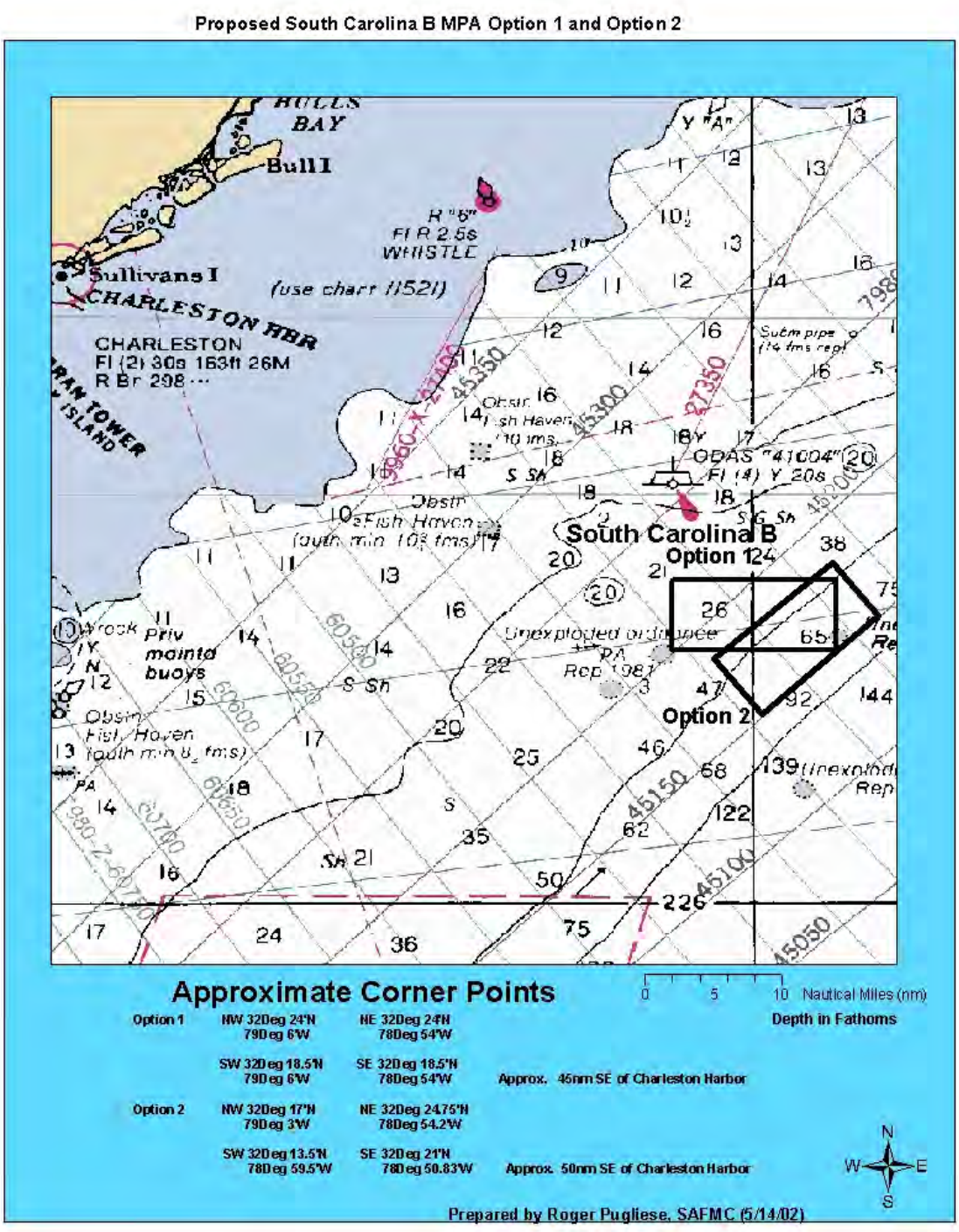

Figure 10. Proposed South Carolina B MPA.

Discussion

Examination of commercial catches from the statistical grid encompassing Boundary options 1 and 3 of this proposed MPA (Table 6) shows that many deepwater species were reported caught in this area (184,938 pounds) as well as significant catches of snapper grouper species (634,253 pounds) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA in 2000. Analysis of boundary option 2 shows much fewer deepwater species were caught (Table 7) in the logbook grid encompassing this area (4,899 pounds), fewer other snapper grouper species (171,505) compared to boundary options 1 and 3 in 2000. However, there were some headboat catches reported in statistical grids encompassing boundary option 2 in 2000 (Table 7).

Table 6. Commercial catch reported in area of South Carolina B Proposed MPA/Boundary Options 1 & 3 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3278	184,938	29.2%	634,253	162,087	769,340

Table 7. Commercial catch reported in area of South Carolina B Proposed MPA/Boundary Option 2 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3279	4889	2.9%	171,505	93,713	265,218

Table 8. Headboat catch reported in area of South Carolina B Proposed MPA/Boundary Option 2 in 2000 (NOAA Fisheries, SEFSC).

Headboat Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3279F4	56	<1%	272,250	5,522	32,772
3278A4	3	<1%	2,248	303	2,551
3278F5	0	0%	2,237	457	2,694
Total	**59**	**<1%**	**276,735**	**6,282**	**283,017**

PROPOSED ACTION 4. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (NO HARVEST OR POSSESSION OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) OFF THE COAST OF GEORIGA.

Option 1. Establish the Georgia MPA in the area bounded by the following coordinates: The northwest corner at 31°43'N, 79°31'W; the northeast corner at 31°43'N, 79°21'W; the southwest corner at 31°34'N, 79°39'W; and the southeast corner at 31°34'N, 79°29'W.

Option 2. Establish the Georgia MPA in the area bounded by the following coordinates: The northwest corner at 31°38'N, 79°41'W; the northeast corner at 31°38'N, 79°31'W; the southwest corner at 31°28'N, 79°41'W; and the southeast corner at 31°28'N, 79°31'W.

Option 3. No action – Do not establish a MPA off the coast of Georgia.

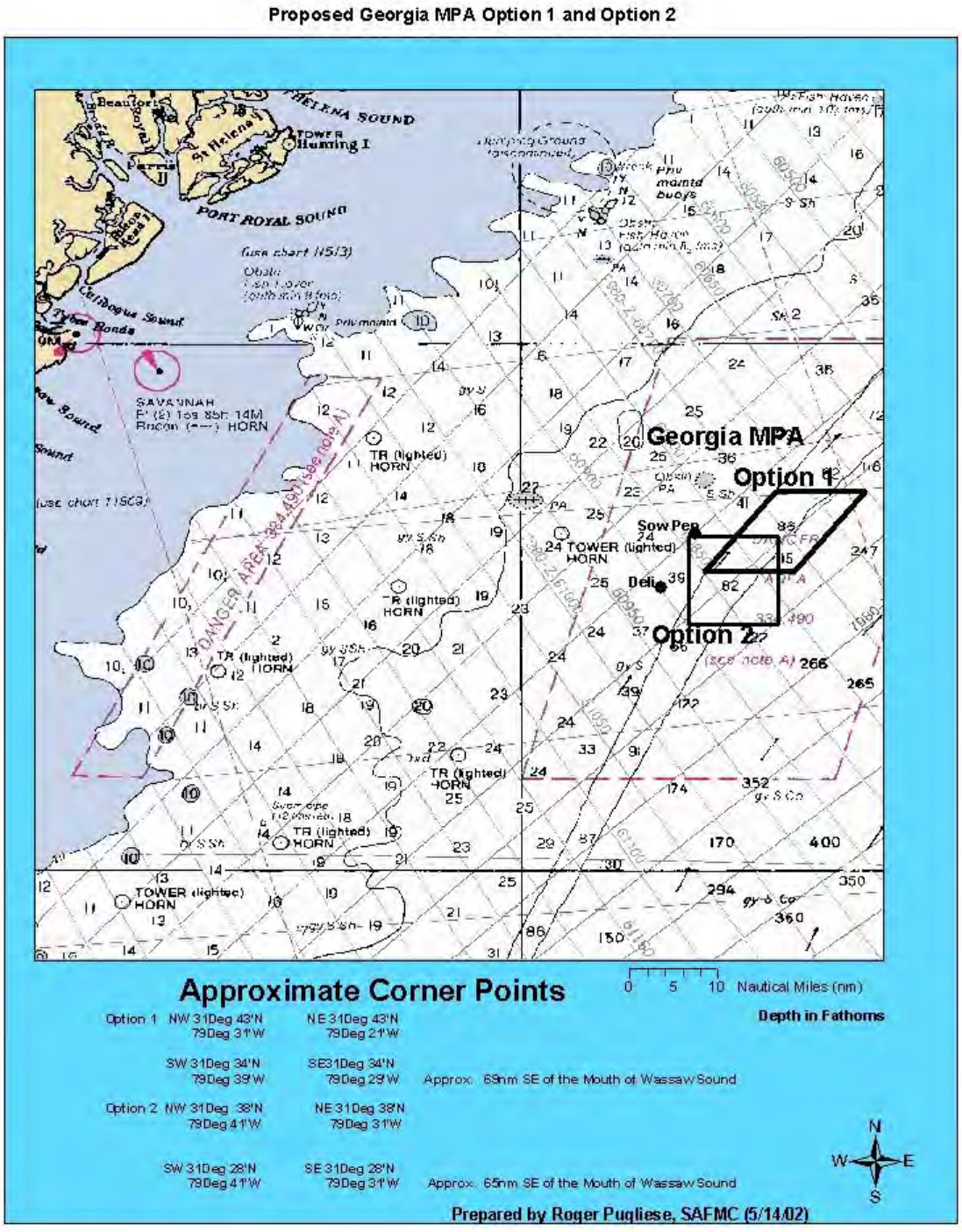

Figure 11. Proposed Georgia MPA

Discussion

Examination of commercial catches (Table 9) reported from the logbook grid that encompasses both boundary options of this proposed MPA show that there were 30,237 pounds of deepwater species caught in the vicinity this area in 2000. They also show catches of other snapper grouper species (16,459 pounds) and of other species recorded (9,126 pounds) in the Commercial Logbook (these species could be king and Spanish mackerel, dolphin, wahoo or sharks) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA.

Table 9. Commercial catch reported in area of the Georgia Proposed MPA/Boundary Options 1 & 2 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3179	30,237	18.4%	164,590	9,126	173,716

PROPOSED ACTION 5. ESTABLISH A TYPE 2 MARINE PROTECTED (NO HARVEST OR POSESSION OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) AREA OFF THE COAST NORTHERN COAST OF FLORIDA.

Option 1. Establish the North Florida MPA in the area bounded by the following coordinates: The northwest corner at 30°29'N, 80°18'W; the northeast corner at 30°29'N, 80°8' W; the southwest corner at 30°19'N, 80°18'W; the southeast corner at 30°19'N, 80°8'W.

Option 2. Establish the North Florida MPA in the area bounded by the following coordinates: The northwest corner at 30°5'N, 80°25'W; the northeast corner at 30°5'N, 80°15'W; the southwest corner at 29°55'N, 80°25'W; and the southeast corner at 29°55'N, 80°15'W.

Option 3. No action – Do not establish a North Florida MPA.

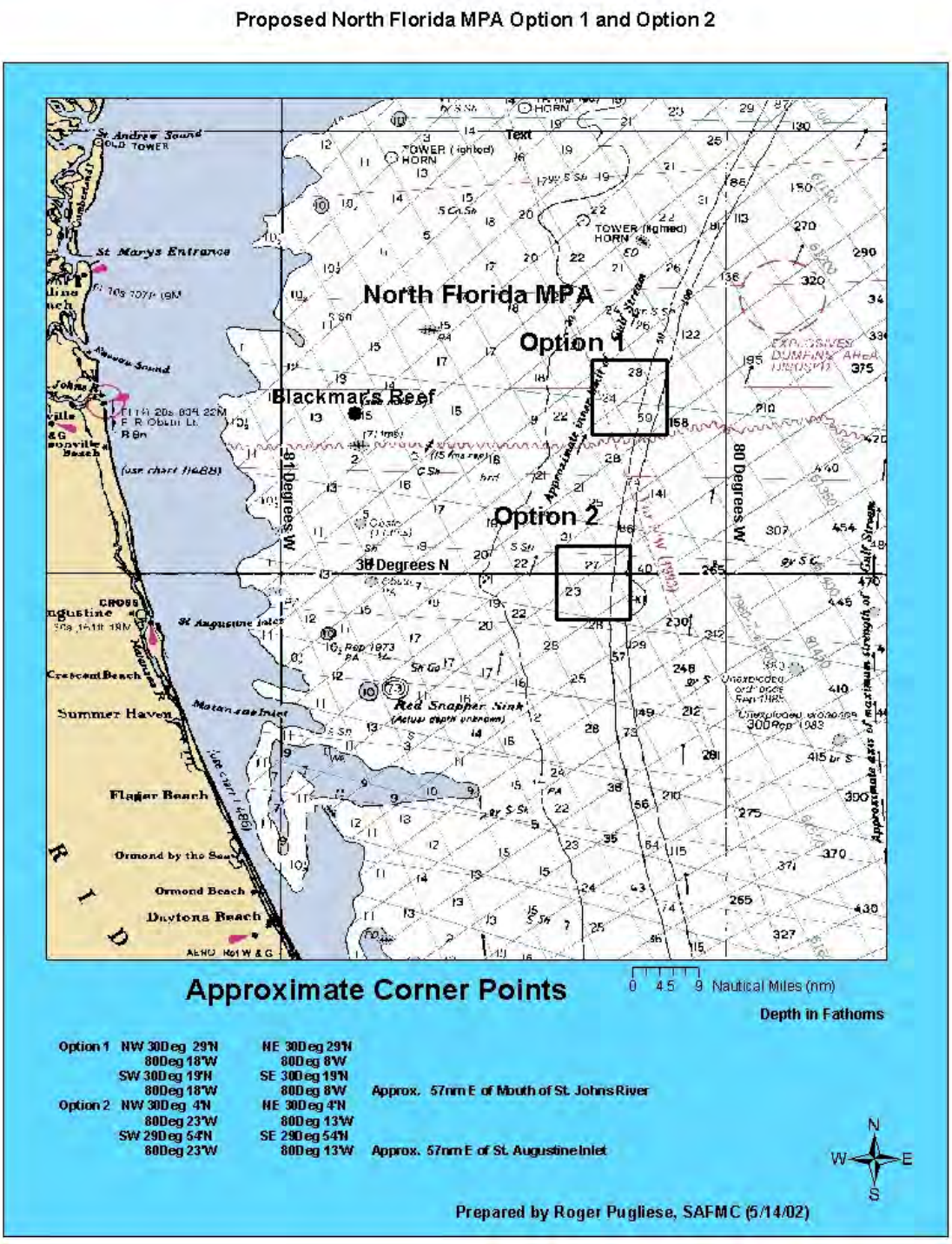

Figure 12. Proposed North Florida MPA.

Discussion

Inspection of MARMAP data on collections of reproductive grouper (i.e. speckled hind and Warsaws) from the shelf break revealed concentrations of records both due east of Jacksonville and due east of St.Augustine, north and south of a tongue shaped bathymetric feature (Habitat AP MPA Proposal for North Florida).

Examination of commercial catches (Table 10) reported from the logbook grids that encompass this proposed MPA show that there were few deepwater species caught in the vicinity boundary option 1 of this proposed MPA in 2000. However, they show significant catches of other snapper grouper species (456,401 pounds) in 2000. Boundary option 2 is encompassed by a different logbook grid which shows that many more deepwater species were reported caught in this area (104,447 pounds) however lower catches of other snapper grouper species (309,808 pounds) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA.

Table 10. Commercial catch reported in area of the proposed North Florida MPA/Boundary Option 1 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3080	976	0.2%	456,401	112,717	569,118

Table 11. Commercial catch reported in area of the proposed North Florida MPA/Boundary Option 2 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
2980	104,447	33.7%	309,808	341,796	651,604

PROPOSED ACTION 6. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (NO HARVEST OR POSSESSION OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) IN THE VICINITY OF THE AREA COMMONLY KNOWN AS THE "SEA BASS ROCKS" OFF THE COAST OF FLORIDA.

Option 1. Establish a the Sea Bass Rocks MPA in the area bounded by the following coordinates: The northwest corner at 27°8'N, 80°0'W; the northeast corner at 27°8'N, 79°58'W; the southwest corner at 27°4'N, 80°0'W; and the southeast corner at 27°4'N, 79°58'W.

Option 2. No action – Do not establish a MPA in the area of the "Sea Bass Rocks".

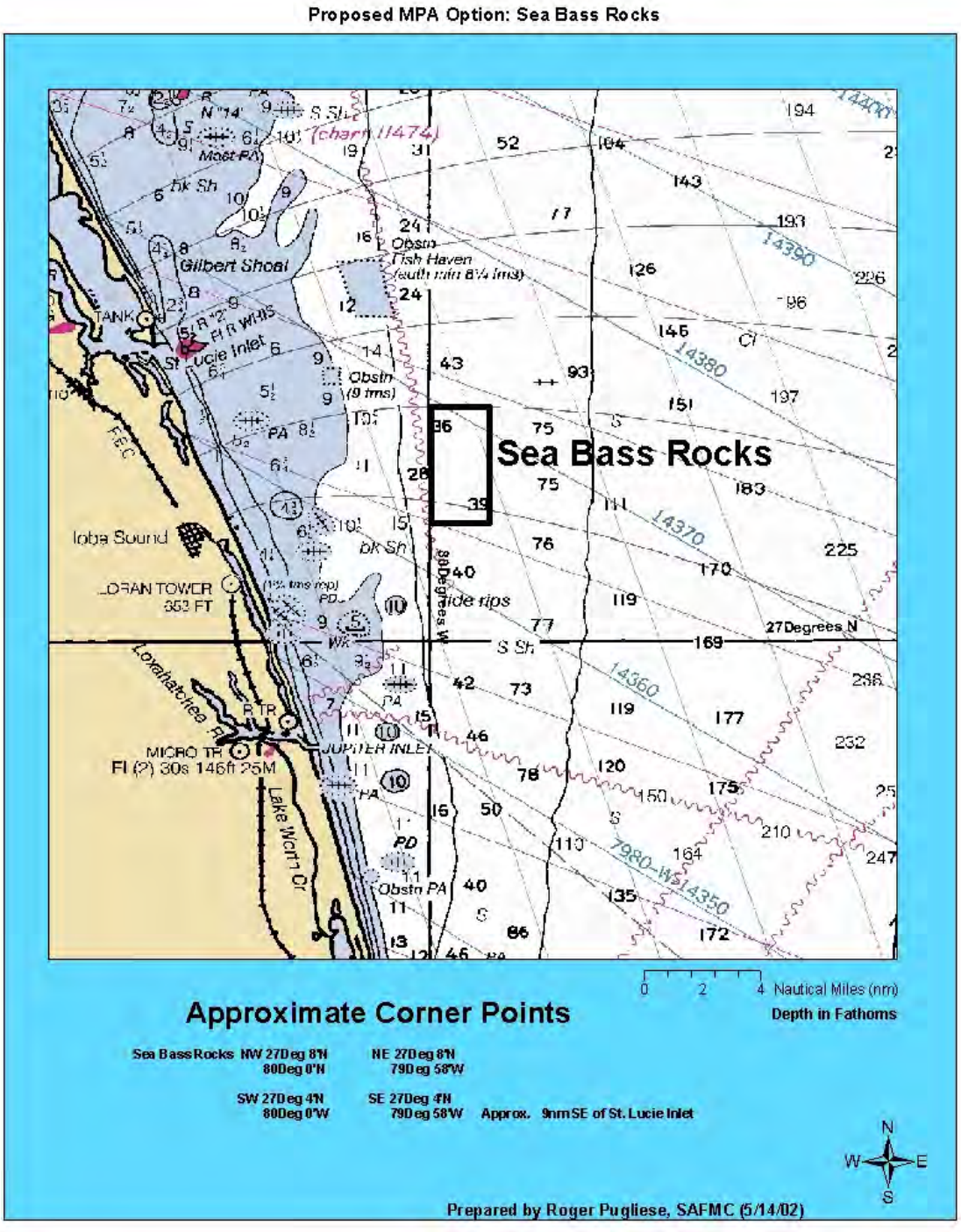

Figure 13. Proposed Sea Bass Rocks MPA.

Discussion

Examination of commercial catches (Table 12) reported from the logbook grid that encompasses this proposed MPA show that there were 102,020 pounds of deepwater species caught in the vicinity this area in 2000. They also show catches of other snapper grouper species (131,078 pounds) and of other species recorded (334,187 pounds) in the Commercial Logbook (these species could be king and Spanish mackerel, dolphin, wahoo or sharks) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA.

Table 12. Commercial catch reported in area of the proposed Sea Bass Rocks MPA/Boundary Option 1 in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
2779	102,020	77.8%	131,079	334,187	456,266

PROPOSED ACTION 7. ESTABLISH A TYPE 2 MARINE PROTECTED AREA (NO HARVEST OR POSSESSION OF ANY SPECIES IN THE SNAPPER GROUPER MANAGEMENT COMPLEX) IN THE VICINTY OF THE AREA COMMONLY KNOWN AS THE EAST HUMP AND THE UNAMED HUMP OFF THE COAST OF THE FLORIDA KEYS.

Option 1. Establish the East Hump MPA in the area bounded by the following coordinates: The northwest corner at 24°36.50'N, 80°45.50'W; the northeast corner at 24°32.00'N, 80°36.00'W; the southwest corner at 24°32.50'N, 80°48'W; and the southeast corner at 24°27.50'N, 80°38.50'W.

Option 2. No action – Do not establish a MPA in the area of the East Hump and the Unnamed Hump.

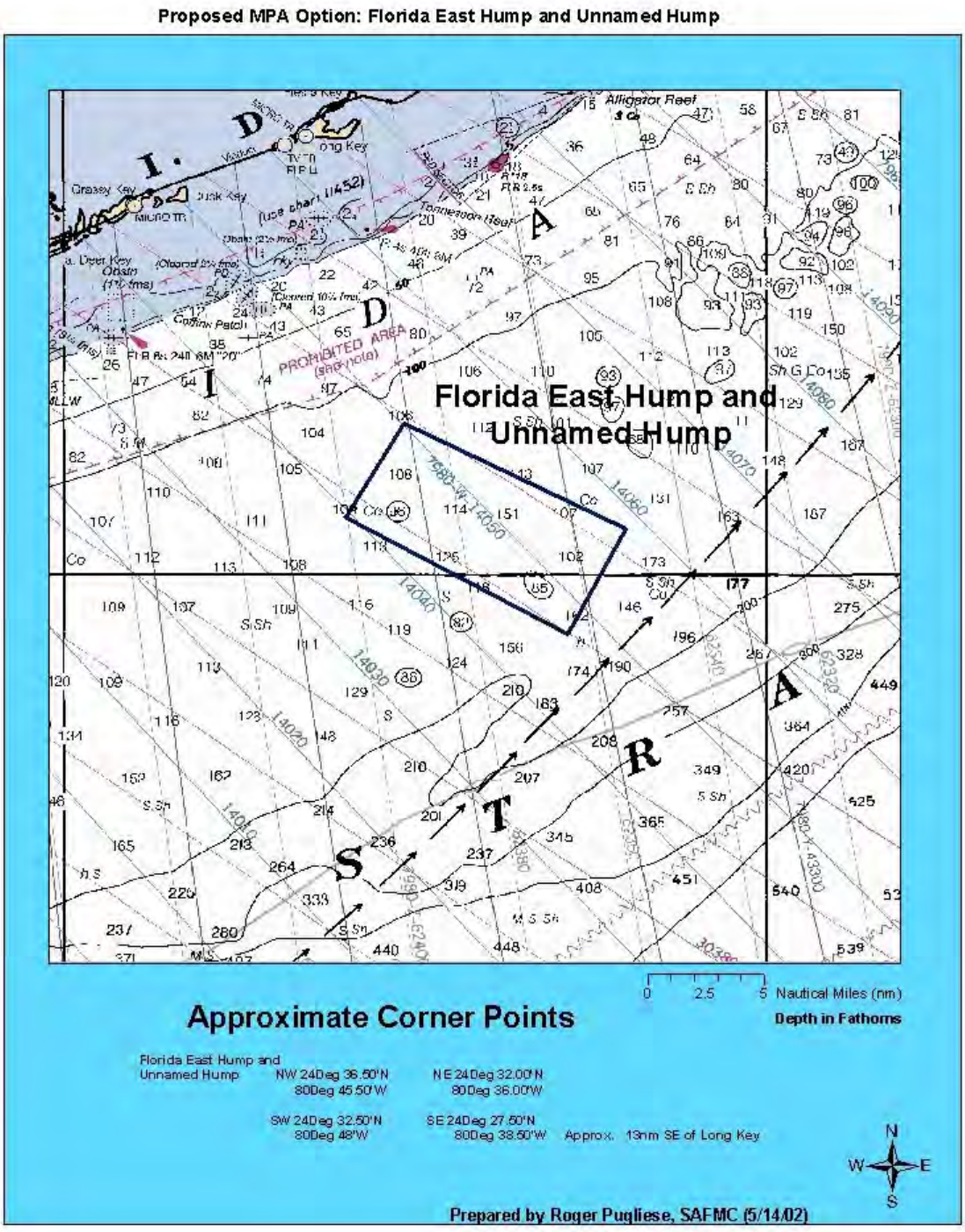

Figure 14. Proposed East Hump/Unnamed Hump MPA

Discussion

Examination of commercial catches (Table 13) reported from the logbook grid that encompasses this proposed MPA show that there were 31,736 pounds of deepwater species caught in the vicinity this area in 2000. They also show catches of other snapper grouper species (590,189 pounds) and of other species recorded (242,132 pounds) in the Commercial Logbook (these species could be king and Spanish mackerel, dolphin, wahoo or sharks) in 2000. There were no reported headboat catches from the statistical grids encompassing any of the boundary options for this proposed MPA.

Table 13. Commercial catch reported in area of the proposed East Hump/Unknown Named Hump MPA (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
2480	31,736	5.4%	590,189	243,132	833,321

PROPOSED ACTION 8. ESTABLISH AN EXPERIMENTAL ARTIFICIAL REEF MARINE PROTECTED AREA OFF THE COAST OF NORTH CAROLINA. ESTABLISH THIS AREA AS A TYPE 1 MPA, PROHIBITING ALL HARVEST WITHIN ITS BOUNDARIES.

Throughout the many rounds of public meetings the Council has held regarding MPAs one of the most common sentiments from members of the public was that the Council use artificial reefs instead of natural bottom as MPAs and/or build more artificial reefs to mitigate for the loss to users of natural bottom that has been designated a MPA. Advisors to the Council have also suggested that artificial reefs can be used as a tool to study the enforcement of closed areas, monitoring of closed areas and many other scientific questions. The Council is considering establishing an experimental artificial MPA to help study some of the questions surrounding MPAs.

Option 1. Establish an experimental artificial reef MPA off the coast of Beaufort, North Carolina in the area identified by the following boundaries: NW 34°30' N,76°42' W; the northeast corner at 34°30' N, 76°38.75' W; the southwest corner at 34°28' N, 76°42' W; and the southeast corner at 34°28' N, 76°38.75' W as recommended by biologist from the state of North Carolina and advisory panel members.

Option 2. Do not establish an experimental artificial reef MPA.

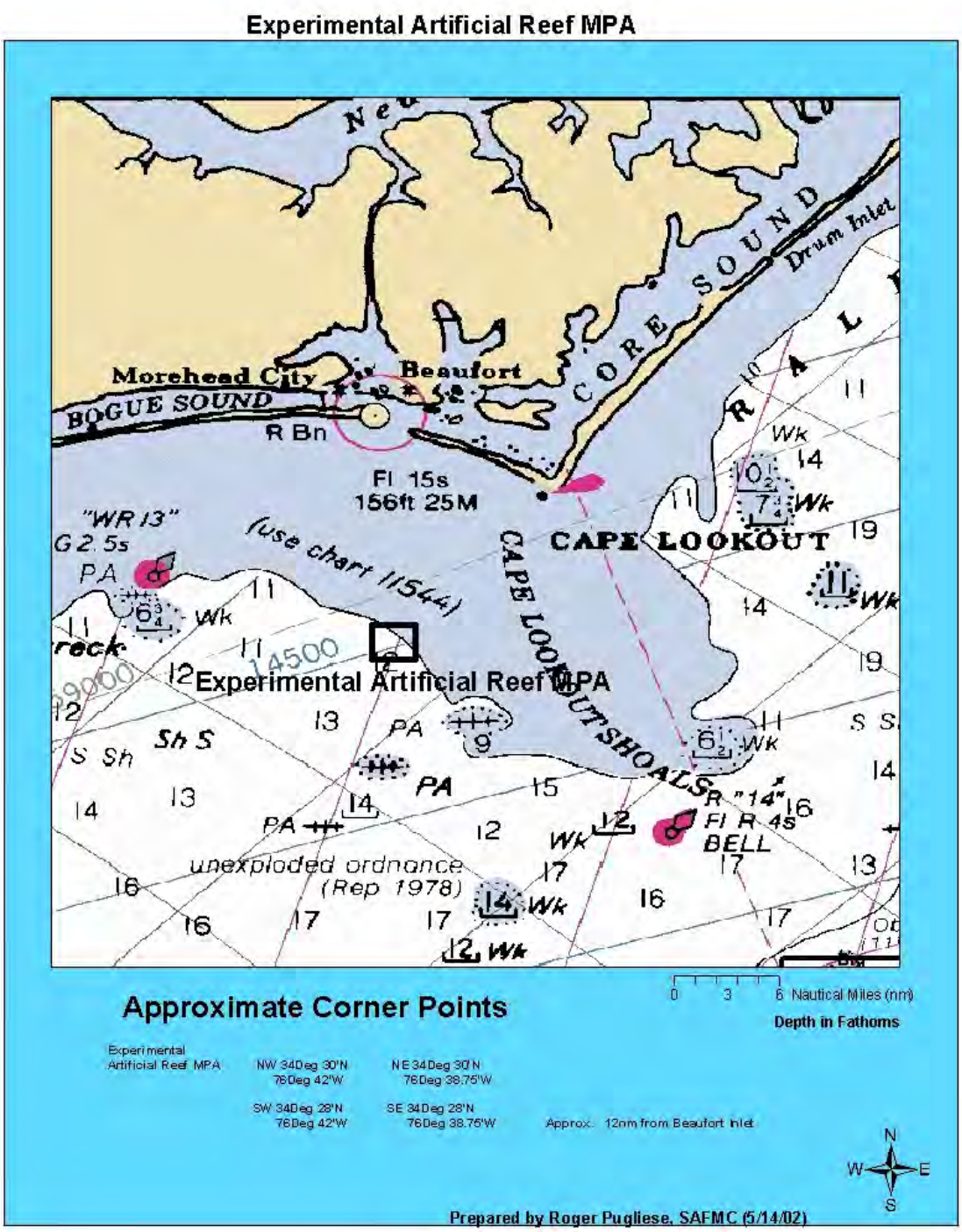

Figure 15. Proposed Experimental Artificial MPA

Discussion

Examination of commercial catches from the statistical grid encompassing the proposed Experimental Artificial MPA show that some (53,951 pounds) deepwater snapper grouper were caught in this area but that 505,923 pounds of other snapper grouper species were caught in this grid area. There was a very small (8,219 pounds) amount of snapper grouper reported landed by headboats from the two statistical grids surrounding this proposed artificial MPA as well as minimal landings (6,908 pounds) of other species.

Table 14. Commercial catch reported in area of the proposed Experimental Artificial Reef MPA in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3476	53,951	10.6%	509,923	118,291	628,213

Table 15. Headboat catch reported in area of the Proposed Experimental Artificial MPA in 2000 (NOAA Fisheries, SEFSC).

Headboat Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3476B4	0	0	3,646	2,964	6,610
3476C4	0	0	4,573	3,944	8,517
Total	**0**	**0**	**8,219**	**6,908**	**15,127**

PROPOSED ACTION 9. ESTABLISH AN EXPERIMENTAL ARTIFICIAL REEF MARINE PROTECTED AREA OFF THE COAST OF SOUTH CAROLINA. ESTABLISH THIS AREA AS A TYPE 1 MPA, PROHIBITING ALL HARVEST WITHIN ITS BOUNDARIES.

Throughout the many rounds of public meetings the Council has held regarding MPAs one of the most common sentiments from members of the public was that the Council use artificial reefs instead of natural bottom as MPAs and/or build more artificial reefs to mitigate for the loss to users of natural bottom that has been designated a MPA. Advisors to the Council have also suggested that artificial reefs can be used as a tool to study the enforcement of closed areas, monitoring of closed areas and many other scientific questions. The Council is considering establishing an experimental artificial MPA to help study some of the questions surrounding MPAs.

Option 1. Establish an experimental artificial reef MPA off the coast of South Carolina in the area identified by the following boundaries: NW 34°30' N,76°42' W; the northeast corner at 34°30' N, 76°38.75' W; the southwest corner at 34°28' N, 76°42' W; and the southeast corner at 34°28' N, 76°38.75' W as recommended by biologist from the state of North Carolina and advisory panel members.

Option 2. Do not establish an experimental artificial reef MPA off the coast of South Carolina.

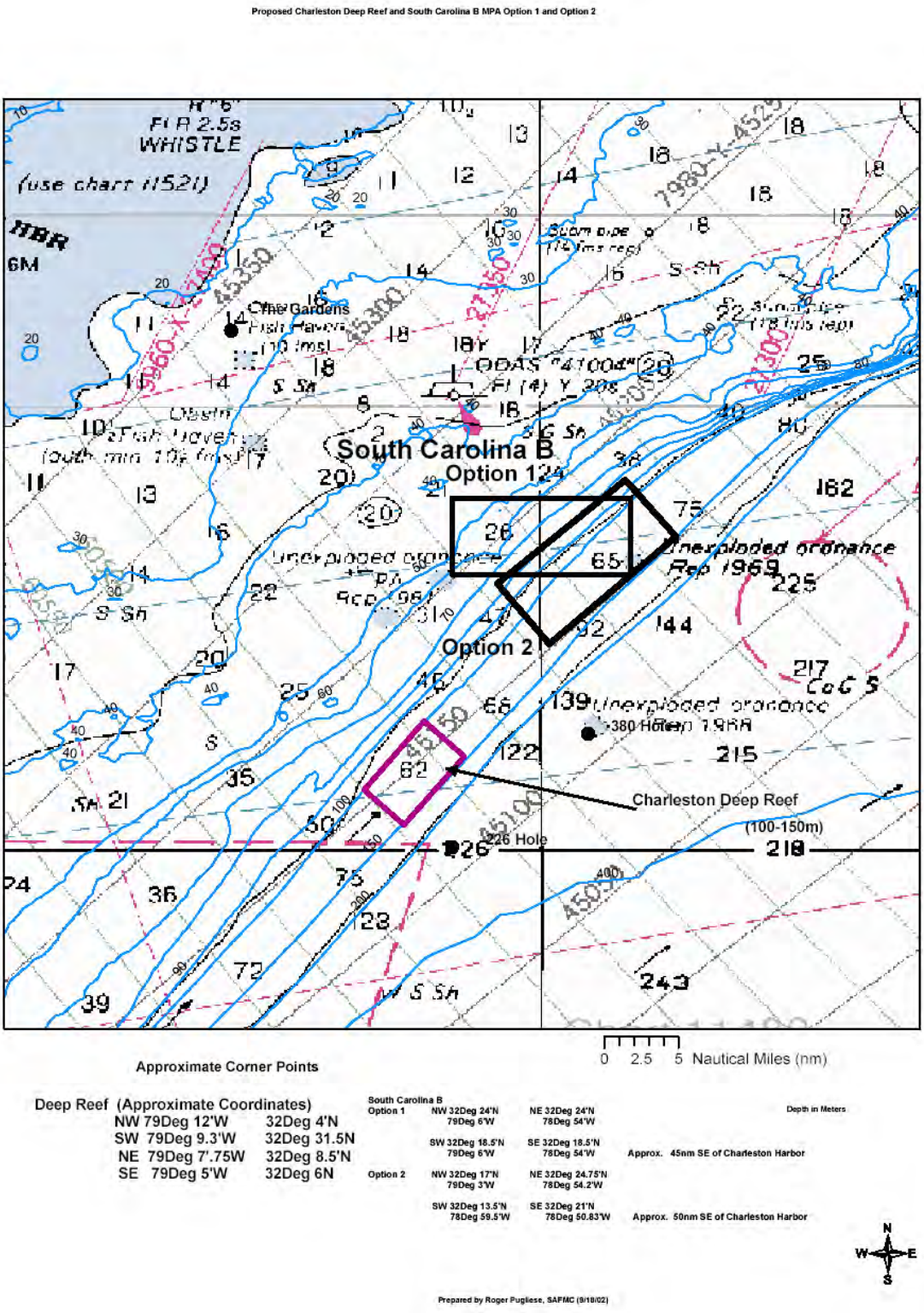

Figure 16. Proposed Charleston Deepreef MPA

Discussion

Examination of commercial catches from the statistical grid encompassing the proposed Charleston Deepreef MPA show that few deepwater snapper grouper were caught in this area but that 171,505 pounds of other snapper grouper species were caught in this grid area. There was a small (16,549 pounds) amount of snapper grouper reported landed by headboats from the statistical grid surrounding this proposed artificial MPA as well as very minimal landings (2,134 pounds) of other species.

Table 16. Commercial catch reported in area of the proposed Charleston Deepreef MPA in 2000 (NOAA Fisheries, SEFSC).

Commercial Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3279	4,889	2.9%	171,505	93,713	265,218

Table 17. Headboat catch reported in area of Charleston Deepreef MPA in 2000 (NOAA Fisheries, SEFSC).

Headboat Logbook Statistical Grid	Deepwater snapper grouper catch (lbs.)	Deepwater snapper grouper % of total snapper grouper	Total snapper grouper catch (lbs.)	Non snapper grouper catch (lbs.)	All catch (lbs.)
3279E6	82	0.5%	16,549	2,134	18,683

INFORMATION NEEDED TO ASSESS IMPACTS OF SPECIFIC SITES

The following questions represent the type of information we hope to gather from people who attend the informational public hearings:

- What type of fishing do you do at the specific site; charter, private-recreational, commercial (what gear)?
- Where do you fish out of (homeport)?
- How many bottomfishing trips do you make in a year at the site?
- Tell us the main species targeted/caught at this site?
- What other areas/sites would you fish if this area was closed?

This information will be used by Council staff to better analyze the impacts these sites may have if they were to be implemented as Type 2 MPAs. After the following information is gathered during this round of informational public hearings it will then be included in the final analysis of all impacts in the next draft of Snapper Grouper Amendment 14 and taken back out to public hearing along with the alternatives dealing with the SFA parameters. The public will then have another opportunity to comment on the proposed MPAs.

DATES AND LOCATIONS OF INFORMATIONAL PUBLIC HEARINGS ON MARINE PROTECTED AREAS TO BE INCLUDED IN SNAPPER GROUPER AMENDMENDMENT 14

Monday, January 19, 2004
Sea Turtle Inn
One Ocean Boulevard
Atlantic Beach FL 32233
Phone: (904)249-7402

Tuesday, January 20, 2004
Ramada Inn
1200 S Federal Highway
Stuart FL 34994
Phone: 772-287-6900

Thursday, January 22, 2004
The Islander
82100 Overseas Highway
Islamorada FL 33036
Phone: 305-664-2031

Tuesday, January 27, 2004
Crystal Coast Civic Center
3505 Arendell Street
Morehead City NC 28557
Phone: 252-247-3883

Wednesday, January 28, 2004
Blockade Runner
275 Waynick Boulevard
Wrightsville Beach NC 28480
800-541-1161 or 910-256-2251

Tuesday, February 10, 2004
University of Georgia Marine Extension
715 Bay Street
Brunswick GA 31520
Phone: 912-264-7268

Wednesday, February 11, 2004
Richmond Hill City Hall
40 Richard R. Davis Drive
Richmond Hill, GA 31324
Phone: 912-756-3345

Tuesday, February 17, 2004
Holiday Inn
722 Highway 17
Little River SC 29566
Phone: 843-281-9400

Thursday, February 19, 2004
Town & Country Inn
2008 Savannah Highway
Charleston SC 29407
Phone: 800-334-6660 or 843-571-1000

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